



REVISED DRAFT

**REMEDIAL ACTION PROGRESS REPORT
for
Southeast Leg Pond Area
Phase 1 Sample Results and Recommendations**

**HATCO CORPORATION SITE
FORDS, NEW JERSEY**

March 2021

Prepared for:

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1.0 INTRODUCTION

This Remedial Action Progress Report (RAPR) has been prepared by Weston Solutions, Inc. (Weston) to document the results of the first round of sampling of the Southeast Leg (SEL) Pond Area of the former Hatco Corporation (Hatco) site located in Fords, Woodbridge Township, Middlesex County, New Jersey. The sampling program was implemented as described in the SEL Pond Area Field Sampling Plan (FSP) and Quality Assurance Project Plan (QAPP) Addendum dated March 2020. A copy of the FSP/QAPP Addendum is provided in Appendix A.

The primary intent of this program is to delineate the extent of soil, sediment and/or surface water contamination in the recently reconstructed wetlands in the SEL Remediation Area. Remediation in the SEL Pond Area was performed in 2015, and included excavation and offsite disposal of light non-aqueous phase liquid (LNAPL) and soil containing polychlorinated biphenyls (PCBs) and bis(2-ethylhexyl) phthalate (BEHP). The SEL Pond Area was then backfilled with imported clean fill. The area was restored as a wetland in accordance with the approved wetland disruption permit for this area.

On June 19, 2018, Weston personnel conducting remediation activities in the Area of Concern (AOC) 2 Former Ponds Area of the Hatco Site discovered that a hole had formed in the ground adjacent to a facility standpipe. The standpipe was connected to a stormwater sewer line which ran through an area of contaminated soil. In 2015 the contaminated soil was placed as part of the SEL remediation project and consolidated beneath an engineered cap in accordance with the approved work plan. The area acted as a pathway for contaminated soil to be transported to the ground surface and into the reconstructed wetlands. Sheen was observed on portions of the northern and southern edges of the SEL Pond Area. The majority of the sheen was observed across an approximately 800 square-foot area within roughly ten feet of the southern edge of the pond. The heavy sheen was recovered by Weston personnel using sorbent materials.

The FSP/QAPP Addendum was accepted by United States Environmental Protection Agency (USEPA) by email dated April 14, 2020. The FSP/QAPP Addendum describes the soil, sediment and surface water sampling program to evaluate the potential contamination resulting from the release that occurred in June 2018. Sampling is planned to be performed in three phases to: 1) identify contaminants associated with the sewer release; 2) identify contaminants which have impacted the clean fill used to construct the SEL Pond Area; and 3) delineate the extent of impacts which require remediation. This report presents the results of the first phase of sampling and recommendations for the second phase of sampling.



2.0 SAMPLING PROGRAM

Weston personnel performed the Phase 1 SEL Pond Area sampling activities on April 23, 2020. The sampling program included collection and analysis of:

- Four surface water samples
- Six soil samples
- Four sediment samples

Sample locations are shown on Figure 1.

The samples were sent to Eurofins/TestAmerica laboratory in Edison, New Jersey (NJ certification number 12028) for analysis. Weston completed a Data Usability Assessment (DUA) to verify the analytical results. The DUA and copies of the annotated laboratory analytical data summary pages are provided in Appendix B.

Laboratory analytical results and screening criteria for the surface water, soil and sediment samples are summarized on Tables 1, 2 and 3, respectively.

The samples and locations were inspected visually for evidence of contamination (e.g., discoloration or staining, stressed vegetation) and screened for organic vapors using a photoionization detector. No visible evidence of contamination was observed during the sampling effort. No elevated organic vapor readings were detected in any of the samples.



3.0 PHASE 1 SAMPLE RESULTS EVALUATION

3.1 COMPARISON WITH CLEAN FILL DATA

The pond was constructed as part of the SEL remediation project in 2015. The clean fill material used to construct the pond was obtained from two sources: Buch/Macy located at 401 Clearview Road, Edison, New Jersey and Almasi located on King Georges Post Road in Edison, New Jersey. A total of sixteen samples were originally collected and analyzed to evaluate the clean fill. A copy of the original construction submittal provided for approval by the Licensed Site Remediation Professional (LSRP) is included as Appendix C. Table 4 presents the Clean Fill Data Summary.

To assess the presence of potential new contaminants to the SEL Pond Area, Weston compared the clean fill data with the Phase 1 soil and sediment sample results. Table 5 presents the comparison of the maximum reported concentrations and frequency of detections for each of the analytes. The maximum concentrations were used to assess whether new contaminants may have been introduced to the SEL Pond Area. For purposes of this screening, potential new contaminants are those analytes that were either:

- Detected in the recent SEL Pond Area samples but not detected in the original clean fill samples; or
- Detected in the recent samples at a maximum concentration approximately an order of magnitude or more than the original clean fill samples.

Based on the comparison with clean fill data, the following analytes have been identified as new contaminants to the clean fill material used to construct the SEL Pond Area:

- Volatile Organic Compounds:
 - Acetone
 - Benzene
 - 2-Butanone (MEK)
 - Ethylbenzene
 - Methylcyclohexane
 - 2-Methyl-2-propanol (TBA)
 - Toluene
 - Xylenes
- Semivolatile Organic Compounds
 - Acenaphthene
 - Acenaphthylene
 - Anthracene
 - Benzaldehyde
 - Benzo[a]anthracene
 - Benzo[a]pyrene
 - Benzo[b]fluoranthene
 - Benzo[g,h,i]perylene
 - Benzo[k]fluoranthene

- Bis(2-ethylhexyl) phthalate
- Butyl benzyl phthalate
- Carbazole
- Chrysene
- Dibenz(a,h)anthracene
- Dibenzofuran
- Diethyl phthalate
- Di-n-octyl phthalate
- Fluoranthene
- Fluorene
- Indeno[1,2,3-cd]pyrene
- 2-Methylnaphthalene
- 4-Methylphenol
- Naphthalene
- Phenanthrene
- Pyrene
- Pesticides: None
- PCBs: Aroclor 1248
- Herbicides: None
- Inorganics: Chromium
- General Chemistry: Extractable petroleum hydrocarbons

3.2 COMPARISON TO SCREENING CRITERIA

3.2.1 Surface Water Sample Results

Table 1 presents a comparison of the surface water sample results with the New Jersey Department of Environmental Protection (NJDEP) Ecological Screening Criteria for Fresh Water Surface Water. None of the parameters analyzed were reported at concentrations above the acute aquatic ecological screening criteria. The following analytes were reported at concentrations above the chronic aquatic ecological screening criteria and/or human health screening criteria:

- Benzo[a]anthracene
- Benzo[a]pyrene
- Benzo[b]fluoranthene
- Hexachlorobenzene
- N-Nitrosodimethylamine
- Arsenic
- Lead

The first three analytes listed above (benzo[a]anthracene, benzo[a]pyrene and benzo[b]fluoranthene) were also identified as potential new contaminants in the soil and sediment (see Section 3.1). Hexachlorobenzene and n-nitrosodimethylamine were each detected in only one of the four surface water samples at estimated concentrations close to the Method Detection Limit

(MDL). These results alone are not indicative of widespread surface water contamination. These analytes will be included with the Phase 2 analysis to assess whether they may be present in the soil or sediment at locations that were not sampled during Phase 1.

Arsenic was detected in all four surface water samples at estimated concentrations above the human health screening criterion. This potential new contaminant will be retained for further evaluation.

3.2.2 Soil Sample Results

Table 2 presents a comparison of the soil sample results with the site specific Residential Direct Contact (RDC) and Non-Residential Direct Contact (NRDC) Soil Cleanup Criteria (SCC) and the NJDEP ecological soil screening levels. None of the parameters analyzed were reported at concentrations above the NRDCSCC. The following analytes were reported at concentrations above the RDCSCC:

- Benzo[a]pyrene
- PCBs

The following analytes were reported at concentrations above the ecological soil screening levels:

- Bis(2-ethylhexyl) phthalate
- Naphthalene
- PCBs
- Aluminum
- Chromium
- Cobalt
- Copper
- Lead
- Manganese
- Mercury
- Nickel
- Vanadium
- Zinc

As discussed in Section 3.1 (comparison with clean fill data), the two analytes reported at concentrations above the RDCSCC (benzo[a]pyrene and PCBs) are new contaminants to the clean fill. Similarly, four of the analytes that were detected at concentrations above the ecological screening criteria for soils (bis[2-ethylhexyl] phthalate, naphthalene, PCBs, and chromium) are also new contaminants. The remaining analytes reported at concentrations above the ecological soil screening levels (aluminum, cobalt, copper, lead, manganese, mercury, nickel, vanadium, and zinc) are metals that were identified at low levels in the original clean fill samples. These metals are not considered to be site-related contaminants. The metals will be retained for analysis during Phase 2 sampling as requested by NJDEP.

3.2.3 Sediment Sample Results

Table 3 presents a comparison of the sediment sample results with the ecological screening levels. PCB data were compared with the site-specific remediation goal of 1 mg/kg. Data for bis(2-ethylhexyl)phthalate were compared to the alternate remediation standard of 22 mg/kg developed for the Woodbridge Pond remediation (Hatco AOC-24) which is a similar pond. The remaining data were compared with the NJDEP ecological screening criteria for freshwater sediments.

None of the sample results exceeded the Severe Effects Level ecological screening criteria. The following analytes were detected in one or more samples at concentrations above the Lowest Effects Level ecological screening criteria:

- Acenaphthene
- Anthracene
- Benzo[a]anthracene
- Benzo[a]pyrene
- Chrysene
- Dibenz(a,h)anthracene
- Fluoranthene
- Fluorene
- 2-Methylnaphthalene
- Naphthalene
- Phenanthrene
- Pyrene
- Aroclor 1248
- Aluminum
- Chromium
- Copper
- Lead

With the exception of aluminum, copper and lead, the analytes listed above were also identified as potential new contaminants when compared to the clean fill data (see Section 3.1) and are recommended for further analysis during Phase 2. Aluminum, copper, and lead are metals that were identified at low levels in the original clean fill samples. These metals are not considered to be site-related contaminants. The metals will be retained for analysis during Phase 2 sampling as requested by NJDEP.



4.0 PHASE 2 SAMPLING RECOMMENDATIONS

As stated in the FSP/QAPP Addendum, the Phase 2 sampling will consist of determining the impact of contaminants identified in the Phase 1 sampling upon the clean fill material used to construct the SEL Pond Area. Phase 2 will involve the collection of soil and sediment samples at approximately 15-foot intervals along the apparent pathway from the original release to the pond and around the perimeter of the pond. (See Figure 1).

The Phase 1 sampling results met the objective to identify contaminants associated with the June 2018 discharge event. The contaminants associated with the June 2018 discharge event are identified as “potential new contaminants”. The potential new contaminants include the constituents identified in soil/sediment samples compared to the clean fill data used to construct the SEL pond and summarized in Section 3.1, as well as three additional potential contaminants identified in Section 3.2.1: hexachlorobenzene, n-nitrosodimethylamine, and arsenic.

Phase 2 samples will be analyzed for the parameters identified in Section 3.1 as well as hexachlorobenzene, n-nitrosodimethylamine, and arsenic. Phase 2 sampling and analysis will be performed as described in the FSP/QAPP Addendum. The planned Phase 2 sampling program, analytical methods and preservation requirements are summarized on Tables 6, 7 and 8.



Table 1

Surface Water Sample Results

Table 1. Surface Water Sample Results
 Southeast Leg Pond Area Phase 1 Sampling
 Hatco Remediation Project
 Woodbridge, New Jersey

Sample ID Laboratory Sample No. Sample Date and Time Parameters Analyzed	NJDEP Ecological Screening Criteria for Fresh Water Surface Water CASRN	Aquatic		Human Health	SEL-PA-SW01-0-042320		SEL-PA-SW02-0-042320		SEL-PA-SW03-0-042320		SEL-PA-SW04-0-042320			
					460-207545-4		460-207545-3		460-207545-1		460-207545-5			
					4/23/2020 9:55		4/23/2020 9:20		4/23/2020 9:00		4/23/2020 10:50			
		Acute	Chronic		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	
Volatile Organic Compounds														
Acetone	67-64-1				5.1		4.4	35	J	4.4	ND	U	4.4	
Acrolein	107-02-8			0.19 ⁸	6.1 ^(h)	ND	U	1.1	ND	U	1.1	ND	U	1.1
Acrylonitrile	107-13-1			66 ⁸	0.051 ^(hc)	ND	U	0.77	ND	U	0.77	ND	U	0.77
Benzene	71-43-2			824 ¹⁶	0.15 ^(hc)	ND	U	0.2	ND	U	0.2	ND	U	0.2
Bromoform	75-25-2			230 ⁸	4.3 ^(hc)	ND	U	0.54	ND	U	0.54	ND	U	0.54
Bromomethane	74-83-9			16 ⁸	47 ^(h)	ND	U	0.55	ND	U	0.55	ND	U	0.55
2-Butanone (MEK)	78-93-3					ND	U	1.9	ND	U	1.9	ND	U	1.9
n-Butylbenzene	104-51-8					ND	U	0.32	ND	U	0.32	ND	U	0.32
sec-Butylbenzene	135-98-8					ND	U	0.37	ND	U	0.37	ND	U	0.37
Carbon disulfide	75-15-0					ND	U	0.82	ND	U	0.82	ND	U	0.82
Carbon tetrachloride	56-23-5			240 ⁸	0.33 ^(hc)	ND	U	0.21	ND	U	0.21	ND	U	0.21
Chlorobenzene	108-90-7			47 ⁸	210 ^(h)	ND	U	0.38	ND	U	0.38	ND	U	0.38
Chlorobromomethane	74-97-5					ND	U	0.41	ND	U	0.41	ND	U	0.41
Chlorodibromomethane	124-48-1				0.4 ^(hc)	ND	U	0.28	ND	U	0.28	ND	U	0.28
Chloroethane	75-00-3					ND	U	0.32	ND	U	0.32	ND	U	0.32
Chloroform	67-66-3			140 ⁸	68 ^(h)	ND	U	0.33	ND	U	0.33	ND	U	0.33
Chloromethane	74-87-3					ND	U	0.4	ND	U	0.4	ND	U	0.4
Cyclohexane	110-82-7					ND	U	0.32	ND	U	0.32	ND	U	0.32
1,2-Dibromo-3-Chloropropane	96-12-8					ND	U	0.01	ND	U	0.01	ND	U	0.01
1,2-Dichlorobenzene	95-50-1			14 ⁸	2,000 ^(h)	ND	U	0.43	ND	U	0.43	ND	U	0.43
1,3-Dichlorobenzene	541-73-1			38 ⁸	2,200	ND	U	0.34	ND	U	0.34	ND	U	0.34
1,4-Dichlorobenzene	106-46-7			9.4 ⁸	550 ^(h)	ND	U	0.33	ND	U	0.33	ND	U	0.33
Dichlorobromomethane	75-27-4				0.55 ^(hc)	ND	U	0.34	ND	U	0.34	ND	U	0.34
Dichlorodifluoromethane	75-71-8					ND	U	0.31	ND	U	0.31	ND	U	0.31
1,1-Dichloroethane	75-34-3					ND	U	0.26	ND	U	0.26	ND	U	0.26
1,2-Dichloroethane	107-06-2			910 ⁸	0.29 ^(hc)	ND	U	0.43	ND	U	0.43	ND	U	0.43
1,1-Dichloroethene	75-35-4			65 ⁸	4.7 ^(h)	ND	U	0.26	ND	U	0.26	ND	U	0.26
cis-1,2-Dichloroethene	156-59-2					ND	U	0.22	ND	U	0.22	ND	U	0.22
trans-1,2-Dichloroethene	156-60-5			970 ⁸	590 ^(h)	ND	U	0.24	ND	U	0.24	ND	U	0.24
1,2-Dichloropropane	78-87-5			360 ⁸	0.5 ^(hc)	ND	U	0.35	ND	U	0.35	ND	U	0.35
cis-1,3-Dichloropropene	10061-01-5					ND	U	0.22	ND	U	0.22	ND	U	0.22
trans-1,3-Dichloropropene	10061-02-6					ND	U	0.49	ND	U	0.49	ND	U	0.49
1,4-Dioxane	123-91-1					0.36	J	0.33	0.44		0.33	0.54		0.33
Ethylbenzene	100-41-4			81 ¹⁶	530 ^(h)	ND	U	0.3	ND	U	0.3	ND	U	0.3
Ethylene Dibromide	106-93-4					ND	U	0.0079	ND	U	0.0079	ND	U	0.0079
2-Hexanone	591-78-6					ND	U	1.1	ND	U	1.1	ND	U	1.1
Isopropylbenzene	98-82-8					ND	U	0.34	ND	U	0.34	ND	U	0.34
Methyl acetate	79-20-9					ND	U	0.79	ND	U	0.79	ND	U	0.79
Methyl tert-butyl ether	1634-04-4	151,000 ¹⁷		51450 ¹⁶	70 ^(h)	ND	U	0.47	ND	U	0.47	ND	U	0.47
4-Methyl-2-pentanone (MIBK)	108-10-1					ND	U	1.3	ND	U	1.3	ND	U	1.3
2-Methyl-2-propanol	75-65-0			355,000 ¹⁶		ND	U	8.3	ND	U	8.3	ND	U	8.3
Methylcyclohexane	108-87-2					ND	U	0.26	ND	U	0.26	ND	U	0.26
Methylene Chloride	75-09-2			940 ⁸	2.5 ^(hc)	ND	U	0.32	ND	U	0.32	ND	U	0.32
N-Propylbenzene	103-65-1					ND	U	0.32	ND	U	0.32	ND	U	0.32
Styrene	100-42-5			32 ⁸		ND	U	0.42	ND	U	0.42	ND	U	0.42
tert-Butylbenzene	98-06-6					ND	U	0.34	ND	U	0.34	ND	U	0.34
1,1,2,2-Tetrachloroethane	79-34-5			380 ⁸	4.7 ^(h)	ND	U	0.37	ND	U	0.37	ND	U	0.37

Table 1. Surface Water Sample Results
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 Hatco Remediation Project
 Woodbridge, New Jersey

Sample ID Laboratory Sample No. Sample Date and Time Parameters Analyzed	NJDEP Ecological Screening Criteria for Fresh Water Surface Water CASRN	SEL-PA-SW01-0-042320			SEL-PA-SW02-0-042320			SEL-PA-SW03-0-042320			SEL-PA-SW04-0-042320					
		460-207545-4			460-207545-3			460-207545-1			460-207545-5					
		Aquatic		Human Health	4/23/2020 9:55			4/23/2020 9:20		4/23/2020 9:00			4/23/2020 10:50			
		Acute	Chronic		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
Tetrachloroethene	127-18-4		45 ⁸	0.34 ^(hc)	ND	U	0.25	ND	U	0.25	ND	U	0.25	ND	U	0.25
Toluene	108-88-3		822 ¹⁶	1,300 ^(h)	ND	U	0.38	ND	U	0.38	ND	U	0.38	ND	U	0.38
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1				ND	U	0.31	ND	U	0.31	ND	U	0.31	ND	U	0.31
1,2,3-Trichlorobenzene	87-61-6				ND	U	0.36	ND	U	0.36	ND	U	0.36	ND	U	0.36
1,2,4-Trichlorobenzene	120-82-1		30 ⁸	21 ^(h)	ND	U	0.37	ND	U	0.37	ND	U	0.37	ND	U	0.37
1,1,1-Trichloroethane	71-55-6		76 ⁸	120 ^(h)	ND	U	0.24	ND	U	0.24	ND	U	0.24	ND	U	0.24
1,1,2-Trichloroethane	79-00-5		500 ⁸	13 ^(h)	ND	U	0.43	ND	U	0.43	ND	U	0.43	ND	U	0.43
Trichloroethene	79-01-6		47 ⁸	1 ^(hc)	ND	U	0.31	ND	U	0.31	ND	U	0.31	ND	U	0.31
Trichlorofluoromethane	75-69-4				ND	U	0.32	ND	U	0.32	ND	U	0.32	ND	U	0.32
1,2,4-Trimethylbenzene	95-63-6				ND	U	0.37	ND	U	0.37	ND	U	0.37	ND	U	0.37
1,3,5-Trimethylbenzene	108-67-8				ND	U	0.33	ND	U	0.33	ND	U	0.33	ND	U	0.33
Vinyl chloride	75-01-4		930 ⁸	0.082 ^(hc)	ND	U	0.17	ND	U	0.17	ND	U	0.17	ND	U	0.17
o-Xylene	95-47-6				ND	U	0.36	ND	U	0.36	ND	U	0.36	ND	U	0.36
m-Xylene & p-Xylene	179601-23-1				ND	U	0.3	ND	U	0.3	ND	U	0.3	ND	U	0.3
Total VOC Concentration	NA				5.46	J	NA	35.44	J	NA	0.54	J	NA	0.6	J	NA
Total Tentatively Identified Compounds	NA				ND	U	NA	ND	U	NA	ND	U	NA	ND	U	NA
Semivolatile Organic Compounds																
Acenaphthene	83-32-9		38 ⁸	670 ^(h)	ND	U	1.1	ND	U	1.1	ND	U	1.1	ND	U	1.1
Acenaphthylene	208-96-8		4840 ⁸		ND	UJ	0.82	ND	U	0.82	ND	U	0.82	ND	U	0.82
Acetophenone	98-86-2				ND	U	2.3	ND	U	2.3	ND	U	2.3	ND	U	2.3
Anthracene	120-12-7		0.035 ⁸	8,300 ^(h)	ND	U	0.63	ND	U	0.63	ND	U	0.63	ND	U	0.63
Atrazine	1912-24-9				ND	UJ	1.3	ND	U	1.3	ND	U	1.3	ND	U	1.3
Benzaldehyde	100-52-7				ND	UJ	2.1	ND	U	2.1	ND	U	2.1	ND	U	2.1
Benzidine	92-87-5		0.000086 ^(hc)		ND	UJ	11	ND	U	11	ND	U	11	ND	U	11
Benzo[a]anthracene	56-55-3		0.025 ⁸	0.038 ^(hc)	0.054		0.016	0.054		0.016	0.049	J	0.016	ND	U	0.016
Benzo[a]pyrene	50-32-8		0.014 ⁸	0.0038 ^(hc)	0.031	J	0.022	0.06		0.022	0.029	J	0.022	ND	U	0.022
Benzo[b]fluoranthene	205-99-2		9.07 ⁸	0.038 ^(hc)	0.042	J	0.024	0.063		0.024	0.036	J	0.024	ND	U	0.024
Benzo[g,h,i]perylene	191-24-2		7.64 ⁸		ND	U	1.4	ND	U	1.4	ND	U	1.4	ND	U	1.4
Benzo[k]fluoranthene	207-08-9			0.38 ^(hc)	ND	U	0.67	ND	U	0.67	ND	U	0.67	ND	U	0.67
1,l'-Biphenyl	92-52-4				ND	UJ	1.2	ND	U	1.2	ND	U	1.2	ND	U	1.2
Bis(2-chloroethoxy)methane	111-91-1				ND	U	0.59	ND	U	0.59	ND	U	0.59	ND	U	0.59
Bis(2-chloroethyl)ether	111-44-4		1900 ⁸	0.03 ^(hc)	ND	U	0.026	ND	U	0.026	ND	U	0.026	ND	U	0.026
Bis(2-ethylhexyl) phthalate	117-81-7		0.3 ⁸	1.2 ^(hc)	ND	U	1.7	ND	U	1.7	ND	U	1.7	ND	U	1.7
4-Bromophenyl phenyl ether	101-55-3				ND	U	0.75	ND	U	0.75	ND	U	0.75	ND	U	0.75
Butyl benzyl phthalate	85-68-7		23 ⁸	150 ^(h)	ND	U	0.85	ND	U	0.85	ND	U	0.85	ND	U	0.85
Caprolactam	105-60-2				ND	U	0.68	ND	U	0.68	ND	U	0.68	ND	U	0.68
Carbazole	86-74-8				ND	U	0.68	ND	U	0.68	ND	U	0.68	ND	U	0.68
4-Chloro-3-methylphenol	59-50-7				ND	U	0.58	ND	U	0.58	ND	U	0.58	ND	U	0.58
4-Chloroaniline	106-47-8				ND	U	1.9	ND	U	1.9	ND	U	1.9	ND	U	1.9
2-Chloronaphthalene	91-58-7		0.396 ⁸	1,000 ^(h)	ND	UJ	1.2	ND	U	1.2	ND	U	1.2	ND	U	1.2
2-Chlorophenol	95-57-8		24 ⁸	81 ^(h)	ND	U	0.38	ND	U	0.38	ND	U	0.38	ND	U	0.38
4-Chlorophenyl phenyl ether	7005-72-3				ND	U	1.3	ND	U	1.3	ND	U	1.3	ND	U	1.3
Chrysene	218-01-9			3.8 ^(hc)	ND	U	0.91	ND	U	0.91	ND	U	0.91	ND	U	0.91
Dibenz(a,h)anthracene	53-70-3			0.0038 ^(hc)	ND	U	0.72	ND	U	0.72	ND	U	0.72	ND	U	0.72
Dibenzofuran	132-64-9				ND	UJ	1.1	ND	U	1.1	ND	U	1.1	ND	U	1.1
3,3'-Dichlorobenzidine	91-94-1		4.5 ⁸	0.021 ^(hc)	ND	U	1.4	ND	U	1.4	ND	U	1.4	ND	U	1.4
2,4-Dichlorophenol	120-83-2		11 ⁸	77 ^(h)	ND	U	1.1	ND	U	1.1	ND	U	1.1	ND	U	1.1
Diethyl phthalate																

Table 1. Surface Water Sample Results
 Southeast Leg Pond Area Phase 1 Sampling
 Hatco Remediation Project
 Woodbridge, New Jersey

Sample ID Laboratory Sample No. Sample Date and Time Parameters Analyzed	NJDEP Ecological Screening Criteria for Fresh Water Surface Water CASRN	SEL-PA-SW01-0-042320			SEL-PA-SW02-0-042320			SEL-PA-SW03-0-042320			SEL-PA-SW04-0-042320					
		460-207545-4			460-207545-3			460-207545-1			460-207545-5					
		Aquatic		Human Health	4/23/2020 9:55			4/23/2020 9:20		4/23/2020 9:00			4/23/2020 10:50			
		Acute	Chronic		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
Dimethyl phthalate	131-11-3				ND	U	0.77	ND	U	0.77	ND	U	0.77	ND	U	0.77
2,4-Dimethylphenol	105-67-9		100 ⁸	380 ^(h)	ND	U	0.62	ND	U	0.62	ND	U	0.62	ND	U	0.62
Di-n-butyl phthalate	84-74-2		9.7 ⁸	2,000 ^(h)	ND	U	0.84	ND	U	0.84	ND	U	0.84	ND	U	0.84
4,6-Dinitro-2-methylphenol	534-52-1			13 ^(h)	ND	U	13	ND	U	13	ND	U	13	ND	U	13
2,4-Dinitrophenol	51-28-5		19 ⁸	69 ^(h)	ND	U	14	ND	U	14	ND	U	14	ND	U	14
2,4-Dinitrotoluene	121-14-2		44 ⁸	0.11 ^(hc)	ND	U	1	ND	U	1	ND	U	1	ND	U	1
2,6-Dinitrotoluene	606-20-2				ND	U	0.83	ND	U	0.83	ND	U	0.83	ND	U	0.83
Di-n-octyl phthalate	117-84-0				ND	U	4.8	ND	U	4.8	ND	U	4.8	ND	U	4.8
1,2-Diphenylhydrazine	122-66-7			0.036 ^(hc)	ND	U	0.79	ND	U	0.79	ND	U	0.79	ND	U	0.79
Fluoranthene	206-44-0		1.9 ⁸	130 ^(h)	ND	U	0.84	ND	U	0.84	ND	U	0.84	ND	U	0.84
Fluorene	86-73-7		19 ⁸	1,100 ^(h)	ND	UJ	0.91	ND	U	0.91	ND	U	0.91	ND	U	0.91
Hexachlorobenzene	118-74-1		0.0003 ⁸	0.00028 ^(hc)	ND	U	0.013	ND	U	0.013	0.019	J	0.013	ND	U	0.013
Hexachlorobutadiene	87-68-3		0.053 ⁸	0.44 ^(hc)	ND	U	0.78	ND	U	0.78	ND	U	0.78	ND	U	0.78
Hexachlorocyclopentadiene	77-47-4		77 ⁸	40 ^(h)	ND	U	3.6	ND	U	3.6	ND	U	3.6	ND	U	3.6
Hexachloroethane	67-72-1		8 ⁸	1.4 ^(hc)	ND	U	0.8	ND	U	0.8	ND	U	0.8	ND	U	0.8
Indeno[1,2,3-cd]pyrene	193-39-5		4.31 ⁸	0.038 ^(hc)	ND	U	0.94	ND	U	0.94	ND	U	0.94	ND	U	0.94
Isophorone	78-59-1		920 ⁸	35 ^(hc)	ND	U	0.8	ND	U	0.8	ND	U	0.8	ND	U	0.8
2-Methylnaphthalene	91-57-6		330 ⁸		ND	U	1.1	ND	U	1.1	ND	U	1.1	ND	U	1.1
2-Methylphenol	95-48-7				ND	U	0.67	ND	U	0.67	ND	U	0.67	ND	U	0.67
4-Methylphenol	106-44-5				ND	U	0.65	ND	U	0.65	ND	U	0.65	ND	U	0.65
Naphthalene	91-20-3		13 ⁸		ND	U	1.1	ND	U	1.1	ND	U	1.1	ND	U	1.1
2-Nitroaniline	88-74-4				ND	U	0.47	ND	U	0.47	ND	U	0.47	ND	U	0.47
3-Nitroaniline	99-09-2				ND	U	1.9	ND	U	1.9	ND	U	1.9	ND	U	1.9
4-Nitroaniline	100-01-6				ND	U	1.2	ND	U	1.2	ND	U	1.2	ND	U	1.2
Nitrobenzene	98-95-3		220 ⁸	17 ^(h)	ND	U	0.57	ND	U	0.57	ND	U	0.57	ND	U	0.57
2-Nitrophenol	88-75-5				ND	U	0.75	ND	U	0.75	ND	U	0.75	ND	U	0.75
4-Nitrophenol	100-02-7		60 ⁸		ND	U	4	ND	U	4	ND	U	4	ND	U	4
N-Nitrosodimethylamine	62-75-9			0.00069 ^(hc)	0.23		0.12	ND	U	0.12	ND	U	0.12	ND	U	0.12
N-Nitrosodimethylamine	62-75-9				ND	U	0.45	ND	U	0.45	ND	U	0.45	ND	U	0.45
N-Nitrosodi-n-propylamine	621-64-7			0.005 ^(hc)	ND	U	0.43	ND	U	0.43	ND	U	0.43	ND	U	0.43
N-Nitrosodiphenylamine	86-30-6			3.3 ^(hc)	ND	U	0.89	ND	U	0.89	ND	U	0.89	ND	U	0.89
2,2'-oxybis[1-chloropropane]	108-60-1			1,400 ^(h)	ND	U	0.63	ND	U	0.63	ND	U	0.63	ND	U	0.63
Pentachlorophenol	87-86-5	(b)	(b)	0.27 ^(hc)	ND	U	0.15	ND	U	0.15	ND	U	0.15	ND	U	0.15
Phenanthrene	85-01-8		3.6 ⁸		ND	U	0.58	ND	U	0.58	ND	U	0.58	ND	U	0.58
Phenol	108-95-2		180 ⁸	10,000 ^(h)	ND	U	0.29	ND	U	0.29	ND	U	0.29	ND	U	0.29
Pyrene	129-00-0		0.3 ⁸	830 ^(h)	ND	U	1.6	ND	U	1.6	ND	U	1.6	ND	U	1.6
1,2,4,5-Tetrachlorobenzene	95-94-3		3 ⁸	0.97 ^(h)	ND	U	1.2	ND	U	1.2	ND	U	1.2	ND	U	1.2
2,3,4,6-Tetrachlorophenol	58-90-2				ND	U	0.75	ND	U	0.75	ND	U	0.75	ND	U	0.75
2,4,5-Trichlorophenol	95-95-4			1,800 ^(h)	ND	U	0.88	ND	U	0.88	ND	U	0.88	ND	U	0.88
2,4,6-Trichlorophenol	88-06-2		4.9 ⁸	0.58 ^(hc)	ND	U	0.86	ND	U	0.86	ND	U	0.86	ND	U	0.86
Total SVOC Conc.	NA				0.357	J	NA	0.177	J	NA	0.133	J	NA	0	U	NA
Total Tentatively Identified Compounds	NA				ND	U	NA	ND	U	NA	ND	U	NA	ND	U	NA
Pesticides																
Aldrin	309-00-2	3	0.017 ⁸	0.000049 ^(hc)	ND	U	0.003	ND	U	0.003	ND	U	0.003	ND	U	0.003
alpha-BHC	319-84-6		12.4 ⁸	0.0026 ^(hc)	ND	U	0.007	ND	U	0.007	ND	U	0.007	ND	U	0.007
beta-BHC	319-85-7		0.495 ⁸	0.0091 ^(hc)	ND	U	0.004	ND	U	0.004	ND	U	0.004	ND	U	0.004
delta-BHC	319-86-8				ND	U	0.005	ND	U	0.005	ND	U	0.005	ND		

Table 1. Surface Water Sample Results
 Southeast Leg Pond Area Phase 1 Sampling
 Hatco Remediation Project
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Sample ID	CASRN	NJDEP Ecological Screening Criteria for Fresh Water Surface Water			SEL-PA-SW01-0-042320			SEL-PA-SW02-0-042320			SEL-PA-SW03-0-042320			SEL-PA-SW04-0-042320			
		Aquatic		Human Health	460-207545-4			460-207545-3			460-207545-1			460-207545-5			
		Acute	Chronic		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	
					ND	U	0.002	ND	U	0.002	ND	U	0.002	ND	U	0.002	
cis-Chlordane	5103-71-9				ND	U	0.002	ND	U	0.002	ND	U	0.002	ND	U	0.002	
trans-Chlordane	5103-74-2				ND	U	0.003	ND	U	0.003	ND	U	0.003	ND	U	0.003	
Chlordane (technical)	12789-03-6				ND	U	0.055	ND	U	0.055	ND	U	0.055	ND	U	0.055	
4,4'-DDD	72-54-8			0.00031 ^(hc)	ND	U	0.006	ND	U	0.006	ND	U	0.006	ND	U	0.006	
4,4'-DDE	72-55-9			4.51E-09 ⁸	0.00022 ^(hc)	ND	U	0.002	ND	U	0.002	ND	U	0.002	ND	U	0.002
4,4'-DDT	50-29-3	1.1	0.001	0.00022 ^(hc)	ND	U	0.004	ND	U	0.004	ND	U	0.004	ND	U	0.004	
Dieldrin	60-57-1	0.24	0.056	0.000052 ^(hc)	ND	U	0.003	ND	U	0.003	ND	U	0.003	ND	U	0.003	
Endosulfan I	959-98-8				ND	U	0.002	ND	U	0.002	ND	U	0.002	ND	U	0.002	
Endosulfan II	33213-65-9				ND	U	0.004	ND	U	0.004	ND	U	0.004	ND	U	0.004	
Endosulfan sulfate	1031-07-8		2.22 ⁸	62 ^(h)	ND	U	0.006	ND	U	0.006	ND	U	0.006	ND	U	0.006	
Endrin	72-20-8	0.086	0.036	0.059 ^(h)	ND	U	0.004	ND	U	0.004	ND	U	0.004	ND	U	0.004	
Endrin aldehyde	7421-93-4		0.15 ⁸	0.059 ^(h)	ND	U	0.008	ND	U	0.008	ND	U	0.008	ND	U	0.008	
Endrin ketone	53494-70-5				ND	U	0.008	ND	U	0.008	ND	U	0.008	ND	U	0.008	
Heptachlor	76-44-8	0.52	0.0038	0.000079 ^(hc)	ND	U	0.003	ND	U	0.003	ND	U	0.003	ND	U	0.003	
Heptachlor epoxide	1024-57-3	0.52	0.0038	0.000039 ^(hc)	ND	U	0.005	ND	U	0.005	ND	U	0.005	ND	U	0.005	
Methoxychlor	72-43-5		0.03	40 ^(h)	ND	U	0.004	ND	U	0.004	ND	U	0.004	ND	U	0.004	
Toxaphene	8001-35-2	0.73	0.0002	0.00028 ^(hc)	ND	U	0.11	ND	U	0.11	ND	U	0.11	ND	U	0.11	
PCBs																	
Aroclor 1016	12674-11-2				ND	U	0.12	ND	U	0.12	ND	U	0.12	ND	U	0.12	
Aroclor 1221	11104-28-2				ND	U	0.12	ND	U	0.12	ND	U	0.12	ND	U	0.12	
Aroclor 1232	11141-16-5				ND	U	0.12	ND	U	0.12	ND	U	0.12	ND	U	0.12	
Aroclor 1242	53469-21-9				ND	U	0.12	ND	U	0.12	ND	U	0.12	ND	U	0.12	
Aroclor 1248	12672-29-6				ND	U	0.12	ND	U	0.12	ND	U	0.12	ND	U	0.12	
Aroclor 1254	11097-69-1				ND	U	0.11	ND	U	0.11	ND	U	0.11	ND	U	0.11	
Aroclor 1260	11096-82-5				ND	UJ	0.11	ND	U	0.11	ND	U	0.11	ND	U	0.11	
Aroclor 1262	37324-23-5				ND	U	0.11	ND	U	0.11	ND	U	0.11	ND	U	0.11	
Aroclor 1268	11100-14-4				ND	U	0.11	ND	U	0.11	ND	U	0.11	ND	U	0.11	
Total PCBs	1336-36-3		0.014	0.000064 ^(hc)	ND	U	0.12	ND	U	0.12	ND	U	0.12	ND	U	0.12	
Herbicides																	
2,4,5-T	93-76-5				ND	U	0.12	ND	U	0.12	ND	U	0.12	ND	U	0.12	
2,4-D	94-75-7				ND	U	0.13	ND	U	0.13	ND	U	0.13	ND	U	0.13	
Silvex (2,4,5-TP)	93-72-1				ND	U	0.11	ND	U	0.11	ND	U	0.11	ND	U	0.11	
Inorganics																	
Aluminum	7429-90-5				216		18.8	2450		18.8	143		18.8	134		18.8	
Antimony	7440-36-0		80 ⁸	5.6 ^{(h)(T)}	0.9	J	0.4	0.92	J	0.4	0.63	J	0.4	0.94	J	0.4	
Arsenic	7440-38-2	340 ^{(d)(s)}	150 ^{(d)(s)}	0.017 ^{(h)(T)}	0.97	J	0.73	1.1	J	0.73	1	J	0.73	1.1	J	0.73	
Barium	7440-39-3		220 ⁸	2000 ^{(h)(T)}	53.2		1.2	69.1		1.2	57.5		1.2	49.2		1.2	
Beryllium	7440-41-7		3.6 ⁸	6 ^{(h)(T)}	ND	U	0.25	ND	U	0.25	ND	U	0.25	ND	U	0.25	
Cadmium	7440-43-9	(a)	(a)	3.4 ^{(h)(T)}	ND	U	0.81	ND	U	0.81	ND	U	0.81	ND	U	0.81	
Calcium	7440-70-2				45500		98.8	45400		98.8	44900		98.8	43800		98.8	
Chromium	7440-47-3		42 ⁸	92 ^{(h)(T)}	ND	U	2.3	4.4		2.3	ND	U	2.3	ND	U	2.3	
Hexavalent Chromium	18540-29-9	15 ^{(d)(s)}	10 ^{(d)(s)}		ND	U	8.1	ND	U	8.1	ND	U	8.1	ND	U	8.1	
Cobalt	7440-48-4		24 ⁸		ND	U	1.6	2.6	J	1.6	ND	U	1.6	ND	U	1.6	
Copper	7440-50-8	(a)	(a)	1300 ^{(h)(T)}	ND	U	2	9.4		2	ND	U	2	ND	U	2	
Iron	7439-89-6				3490		51.1	7540		51.1	2990		51.1	2850		51.1	
Lead	7439-92-1	38 ^{(d)(s)}	5.4 ^{(d)(s)}	5 ^{(h)(T)}	1.2		0.55	8.6		0.55	1.2		0.55	0.99	J	0.55	
Magnesium	7439-95-4		</td														

Table 1. Surface Water Sample Results
 Southeast Leg Pond Area Phase 1 Sampling
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 Woodbridge, New Jersey

Sample ID Laboratory Sample No. Sample Date and Time Parameters Analyzed	CASRN	NJDEP Ecological Screening Criteria for Fresh Water Surface Water			SEL-PA-SW01-0-042320			SEL-PA-SW02-0-042320			SEL-PA-SW03-0-042320			SEL-PA-SW04-0-042320			
		Aquatic		Human Health	460-207545-4			460-207545-3			460-207545-1			460-207545-5			
		Acute	Chronic		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	
		Mercury	7439-97-6	1.4 (d)s	0.77 (d)s	0.05 (h)(T)	ND	U	0.091	ND	U	0.091	ND	U	0.091	ND	U
Nickel	7440-02-0	(a)		(a)	500 (h)(T)	ND	U	2.4	5.9	2.4	ND	U	2.4	ND	U	2.4	
Potassium	7440-09-7				10300		86.7	10100		86.7	10600		86.7	9760		86.7	
Selenium	7782-49-2	20 (s)		5 (s)	170 (h)(T)	ND	U	5.4	ND	U	5.4	ND	U	5.4	ND	U	5.4
Silver	7440-22-4	(a)		0.12 8	170 (h)(T)	ND	U	0.59	ND	U	0.59	ND	U	0.59	ND	U	0.59
Sodium	7440-23-5				58800		128	54900		128	59600		128	56000		128	
Thallium	7440-28-0			10 8	0.24 (h)(T)	ND	U	0.16	ND	U	0.16	ND	U	0.16	ND	U	0.16
Vanadium	7440-62-2			12 8		1.4	J	1.1	7.2		1.1	1.2	J	1.1	1.1	J	1.1
Zinc	7440-66-6	(a)		(a)	7400 (h)(T)	ND	U	11.1	18.3		11.1	ND	U	11.1	ND	U	11.1
Cyanide, Total	57-12-5	22 (fc)		5.2 (fc)	140 (h)	ND	U	0.004	ND	U	0.004	ND	U	0.004	ND	U	0.004
Cyanide, Amenable	57-12-5					ND	U	0.01	ND	U	0.01	ND	U	0.01	ND	U	0.01
Extractable Petroleum Hydrocarbons																	
Total EPH (C9-C40)	NA					ND	U	0.1	ND	U	0.1	ND	U	0.1	ND	U	0.1
Field Measurements																	
pH (Standard units)	NA					6.97			6.91			6.47			7.3		
Temperature (degrees centigrade)	NA					9.5			8.5			9			12.1		
Water depth (feet)	NA					0.59			0.38			0.45			0.25		

Notes

Except where noted all results reported in micrograms per liter

Ecological Screening Criteria and associated notes from NJDEP update dated 3/10/2009: https://www.nj.gov/dep/srp/guidance/ecoscreening/esc_table.pdf

Bold face underlined text: Chronic criteria exceedance

Red Text: Human Health criteria exceedance

Blue highlight: MDL exceeds one or more ESCs

CASRN: Chemical Abstract Service Registry Number

NA: Not applicable

ND: Not detected

MDL: Method detection limit

Q: Data qualifiers

J : Result is less than the reporting limit but greater than or equal to the MDL and the concentration is an estimated value

U : Indicates the analyte was analyzed for but not detected



Table 2
Soil Sample Results

Table 2. Soil Sample Results
 Southeast Leg Pond Area Phase 1 Sampling
 Hatco Remediation Project
 Woodbridge, New Jersey

Sample Identification	CASRN	Site-Specific Soil Criteria	EcoSSL	SEL-PA-SB01-A-B-0-042320	SEL-PA-SB02-A-B-0-042320			SEL-PA-SBNo-A-B-0-042320			SEL-PA-SBEa-A-B-0-042320			SEL-PA-SBSO-A-B-0-042320			SEL-PA-SBWe-A-B-0-042320					
Laboratory Sample Number				460-207545-15			460-207545-14			460-207545-13			460-207545-12			460-207545-8						
Sample Date and Time				4/23/2020 16:30			4/23/2020 16:15			4/23/2020 15:55			4/23/2020 15:35			4/23/2020 15:00						
Parameters Analyzed	RDC	NRDC		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	
Volatile Organic Compounds																						
Acetone	67-64-1	70000		ND	U	0.0084	0.0096	0.0076	0.023	U	0.012	0.022	U	0.0088	0.052	U	0.017	ND	U	0.0066		
Benzene	71-43-2	3	13	0.255	ND	U	0.00038	ND	U	0.00034	ND	U	0.00055	0.00076	J	0.00039	0.0011	J	0.00075	ND	U	0.0003
Bromoform	75-25-2	86	370	15.9	ND	U	0.00062	ND	U	0.00056	ND	U	0.00091	ND	U	0.00065	ND	U	0.0012	ND	U	0.00049
Bromomethane	74-83-9	79	59	0.235	ND	U	0.00069	ND	U	0.00063	ND	U	0.001	ND	U	0.00073	ND	U	0.0014	ND	U	0.00055
2-Butanone (MEK)	78-93-3	3100	44000		ND	U	0.004	ND	UJ	0.0036	0.0077	J	0.0058	0.0053	J	0.0041	0.015	J	0.0079	ND	U	0.0031
Carbon disulfide	75-15-0	7800	110000		ND	U	0.00039	ND	U	0.00035	ND	U	0.00057	ND	U	0.00041	ND	U	0.00078	ND	U	0.00031
Carbon tetrachloride	56-23-5	2	4	2.98	ND	U	0.00057	ND	U	0.00051	ND	U	0.00083	ND	U	0.00059	ND	U	0.0011	ND	U	0.00045
Chlorobenzene	108-90-7	510	7400	13.1	ND	U	0.00026	ND	UJ	0.00023	ND	U	0.00038	ND	U	0.00027	ND	U	0.00052	ND	U	0.00021
Chlorobromomethane	74-97-5				ND	U	0.00041	ND	UJ	0.00037	ND	U	0.0006	ND	U	0.00043	ND	U	0.00082	ND	U	0.00033
Chlorodibromomethane	124-48-1	3	8	2.05	ND	U	0.00028	ND	U	0.00026	ND	U	0.00042	ND	U	0.0003	ND	U	0.00057	ND	U	0.00023
Chloroethane	75-00-3	220	1100		ND	U	0.00076	ND	U	0.00069	ND	U	0.0011	ND	U	0.0008	ND	U	0.0015	ND	U	0.00061
Chloroform	67-66-3	0.6	2	1.19	ND	U	0.00047	ND	U	0.00042	ND	U	0.00068	ND	U	0.00049	ND	U	0.00093	ND	U	0.00037
Chloromethane	74-87-3	4	12		ND	U	0.00064	ND	U	0.00058	ND	U	0.00093	ND	U	0.00067	ND	U	0.0013	ND	U	0.00051
Cyclohexane	110-82-7				ND	U	0.00032	ND	UJ	0.00029	ND	U	0.00047	ND	U	0.00034	ND	U	0.00064	ND	U	0.00026
1,2-Dibromo-3-Chloropropane	96-12-8	0.08	0.2		ND	U	0.00067	ND	U	0.00061	ND	U	0.00098	ND	U	0.0007	ND	U	0.0013	ND	U	0.00053
1,2-Dichlorobenzene	95-50-1	5300	59000	2.96	ND	U	0.00021	ND	UJ	0.00019	ND	U	0.00031	ND	U	0.00022	ND	U	0.00042	ND	U	0.00017
1,3-Dichlorobenzene	541-73-1	5300	59000	37.7	ND	U	0.00023	ND	U	0.00021	ND	U	0.00034	ND	U	0.00024	ND	U	0.00046	ND	U	0.00018
1,4-Dichlorobenzene	106-46-7	5	13	0.546	ND	U	0.00033	ND	UJ	0.0003	ND	U	0.00048	ND	U	0.00034	ND	U	0.00066	ND	U	0.00026
Dichlorobromomethane	75-27-4	1	3	0.54	ND	U	0.00038	ND	U	0.00034	ND	U	0.00055	ND	U	0.00039	ND	U	0.00075	ND	U	0.0003
Dichlorodifluoromethane	75-71-8	490	230000		ND	U	0.00049	ND	U	0.00045	ND	U	0.00072	ND	U	0.00052	ND	U	0.00099	ND	U	0.00039
1,1-Dichloroethane	75-34-3	8	24		ND	U	0.0003	ND	U	0.00027	ND	U	0.00044	ND	U	0.00032	ND	U	0.0006	ND	U	0.00024
1,2-Dichloroethane	107-06-2	6	24	21.2	ND	U	0.00043	ND	U	0.00039	ND	U	0.00063	ND	U	0.00045	ND	U	0.00086	ND	U	0.00034
1,1-Dichloroethene	75-35-4	11	150	8.28	ND	U	0.00033	ND	U	0.0003	ND	U	0.00048	ND	U	0.00034	ND	U	0.00066	ND	U	0.00026
cis-1,2-Dichloroethene	156-59-2	230	1000		ND	U	0.00022	ND	UJ	0.0002	ND	U	0.00033	ND	U	0.00023	ND	U	0.00044	ND	U	0.00018
trans-1,2-Dichloroethene	156-60-5	1000	1000	0.784	ND	U	0.00036	ND	U	0.00033	ND	U	0.00053	ND	U	0.00038	ND	U	0.00072	ND	U	0.00029
1,2-Dichloropropane	78-87-5	10	43	32.7	ND	U	0.00062	ND	U	0.00056	ND	U	0.00091	ND	U	0.00065	ND	U	0.0012	ND	U	0.00049
cis-1,3-Dichloropropene	10061-01-5				ND	U	0.0004	ND	U	0.00036	ND	U	0.00058	ND	UJ	0.00042	ND	U	0.0008	ND	UJ	0.00032
trans-1,3-Dichloropropene	10061-02-6				ND	U	0.00039	ND	U	0.00035	ND	U	0.00057	ND	UJ	0.00041	ND	U	0.00078	ND	UJ	0.00031
1,3-Dichloropropene (cis and trans)	542-75-6	4	7		ND	U	0.0004	ND	U	0.00036	ND	U	0.00058	ND	UJ	0.00042	ND	U	0.0008	ND	UJ	0.00032
1,4-Dioxane	123-91-1				ND	U	0.013	ND	U	0.012	ND	U	0.02	ND	U	0.014	ND	UJ	0.027	ND	U	0.011
E																						

Table 2. Soil Sample Results
 Southeast Leg Pond Area Phase 1 Sampling
 Hatco Remediation Project
 Woodbridge, New Jersey

Sample Identification	CASRN	Site-Specific Soil Criteria	EcoSSL	SEL-PA-SB01-A-B-0-042320	SEL-PA-SB02-A-B-0-042320	SEL-PA-SBNo-A-B-0-042320	SEL-PA-SBEa-A-B-0-042320	SEL-PA-SBSo-A-B-0-042320	SEL-PA-SBWe-A-B-0-042320														
				460-207545-15		460-207545-14		460-207545-13		460-207545-12		460-207545-8											
				4/23/2020 16:30		4/23/2020 16:15		4/23/2020 15:55		4/23/2020 15:35		4/23/2020 15:00											
Parameters Analyzed	RDC	NRDC		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL								
m-Xylene & p-Xylene	179601-23-1			ND	U	0.00025	ND	UJ	0.00023	ND	U	0.00037	ND	U	0.00027								
o-Xylene	95-47-6			ND	U	0.00028	ND	UJ	0.00026	ND	U	0.00042	ND	U	0.0003								
Total xylenes	1330-20-7	12000	170000	10	ND	U	0.00028	ND	UJ	0.00026	ND	U	0.00042	ND	U	0.0003							
Total VOC Conc.	NA			ND		NA	0.0096	NA		0.0307	NA		0.02806	NA		0.0702							
Total VOC TICs	NA			ND		NA	ND		NA	ND		NA	NA	J	NA	0.13236							
Semivolatile Organic Compounds																							
Acenaphthene	83-32-9	3400	37000	20	ND	U	0.035	0.085	J	0.065	ND	U	0.038	0.056	J	0.048	ND	U	0.032				
Acenaphthylene	208-96-8		300000	682	0.013	J	0.0049	0.041	J	0.0092	ND	U	0.0065	0.017	J	0.0054	0.042	J	0.0069	ND	U	0.0045	
Acetophenone	98-86-2	2	5		ND	U	0.023	ND		UJ	0.044	ND	U	0.031	ND	U	0.025	ND	U	0.033	ND	U	0.022
Anthracene	120-12-7	17000	30000	1480	ND	U	0.014	0.3	J	0.027	ND	U	0.019	0.058	J	0.016	0.21	J	0.02	ND	U	0.013	
Atrazine	1912-24-9	210	2400		ND	U	0.012	ND		U	0.022	ND	U	0.016	ND	U	0.013	ND	U	0.017	ND	U	0.011
Benzaldehyde	100-52-7	6100	68000		ND	U	0.021	ND		U	0.039	ND	U	0.028	0.03	J	0.023	0.031	J	0.029	ND	U	0.019
Benzo[a]anthracene	56-55-3	5	17	5.21	0.27		0.017	0.67	J	0.031	0.26		0.022	0.36		0.018	0.97		0.023	0.13		0.015	
Benzo[a]pyrene	50-32-8	0.66	2	1.52	0.29		0.013	0.49	J	0.024	0.26		0.017	0.37		0.014	0.95		0.018	0.12		0.012	
Benzo[b]fluoranthene	205-99-2	5	17	59.8	0.4		0.012	0.61	J	0.023	0.32		0.016	0.53		0.013	1.2		0.017	0.15		0.011	
Benzo[g,h,i]perylene	191-24-2	380000	30000	119	0.16	J	0.014	0.25	J	0.026	0.14	J	0.019	0.2	J	0.015	0.4	J	0.02	0.066	J	0.013	
Benzo[k]fluoranthene	207-08-9	45	170	148	0.15		0.0093	0.23	J	0.017	0.12		0.012	0.2		0.01	0.4		0.013	0.067		0.0086	
1,1'-Biphenyl	92-52-4	61	240	60	ND	U	0.0063	ND		UJ	0.012	ND	U	0.0084	ND	U	0.0069	ND	U	0.0088	ND	U	0.0058
Bis(2-chloroethoxy)methane	111-91-1				ND	U	0.037	ND		UJ	0.069	ND	U	0.049	ND	U	0.04	ND	U	0.052	ND	U	0.034
Bis(2-chloroethyl)ether	111-44-4	0.66	3	23.7	ND	U	0.017	ND		UJ	0.031	ND	U	0.022	ND	U	0.018	ND	U	0.023	ND	U	0.015
Bis(2-ethylhexyl) phthalate	117-81-7	49	210	0.925	1.6		0.025	13	J	0.047	2		0.033	0.083	J	0.027	9.3		0.035	8.1		0.023	
4-Bromophenyl phenyl ether	101-55-3				ND	U	0.019	ND		UJ	0.035	ND	U	0.025	ND	U	0.021	ND	U	0.026	ND	U	0.017
Butyl benzyl phthalate	85-68-7	1200	14000	0.239	ND	U	0.022	ND		UJ	0.042	ND	U	0.03	ND	U	0.024	ND	U	0.031	0.054	J	0.021
Caprolactam	105-60-2	31000	340000		ND	U	0.074	ND		UJ	0.14	ND	U	0.099	ND	U	0.081	ND	U	0.1	ND	U	0.068
Carbazole	86-74-8	24	96		ND	U	0.018	0.17	J	0.034	ND	U	0.024	0.037	J	0.02	0.099	J	0.025	ND	U	0.017	
4-Chloroaniline	106-47-8				ND	U	0.033	ND		U	0.062	ND	U	0.044	ND	U	0.036	ND	U	0.046	ND	U	0.031
4-Chloro-3-methylphenol	59-50-7				ND	U	0.027	ND		UJ	0.05	ND	U	0.036	ND	U	0.029	ND	U	0.037	ND	U	0.025
2-Chloronaphthalene	91-58-7			0.0122	ND	U	0.022	ND		UJ	0.041	ND	U	0.029	ND	U	0.024	ND	U	0.031	ND	U	0.02
2-Chlorophenol	95-57-8	310	5200	0.243	ND	U	0.017	ND		UJ	0.032	ND	U	0.023	ND	U	0.018	ND	U	0.024	ND	U	0.016
4-Chlorophenyl phenyl ether	7005-72-3				ND	U	0.017	ND		UJ	0.031	ND	U	0.022	ND	U	0.018	ND	U	0.023	ND	U	0.015
Chrysene	218-01-9	450	1700	4.73	0.29	J	0.008	0.68	J	0.015	0.27	J	0.011	0.34	J	0.0087	1		0.011	0.12	J	0.0074	
Dibenz(a,h)anthracene	53-70-3	0.66	2	18.4	0.05		0.021	0.098	J	0.038	0.047	J	0.027	0.065		0.022	0.14		0.029	0.029	J	0.019	
Dibenzo[furan]	132-64-9				ND	U	0.0067	0.068	J	0.012	ND	U	0.0089	ND	U	0.0073	0.048	J	0.0093	ND	U	0.0062	
3,3'-Dichlorobenzidine	91-94-1	2	6	0.646	ND	U	0.072	ND		U	0.13	ND	U	0.096	ND	U	0.078	ND	U	0.1	ND	U	0.066
2,4-Dichlorophenol	120-83-2	180	3100	87.5	ND	U	0.031	ND		UJ	0.057	ND	U	0.041	ND	U	0.033	ND	U	0.043	ND	U	0.028
Diethyl phthalate	84-66-2																						

Table 2. Soil Sample Results
 Southeast Leg Pond Area Phase 1 Sampling
 Hatco Remediation Project
 Woodbridge, New Jersey

Sample Identification	CASRN	Site-Specific Soil Criteria		SEL-PA-SB01-A-B-0-042320			SEL-PA-SB02-A-B-0-042320			SEL-PA-SBNo-A-B-0-042320			SEL-PA-SBEa-A-B-0-042320			SEL-PA-SBSo-A-B-0-042320			SEL-PA-SBWe-A-B-0-042320				
				460-207545-15			460-207545-14			460-207545-13			460-207545-12			460-207545-8			460-207545-17				
		RDC	NRDC	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL		
4-Methylphenol	106-44-5	31	340	ND	U	0.03	ND	UJ	0.056	ND	U	0.04	0.13	J	0.032	ND	U	0.041	ND	U	0.027		
Naphthalene	91-20-3	6	17	0.0994	0.018	J	0.0082	0.14	J	0.015	0.025	J	0.011	0.02	J	0.0089	0.091	J	0.011	0.22	J	0.0076	
2-Nitroaniline	88-74-4	39	23000	ND	U	0.018	ND	UJ	0.033	ND	U	0.024	ND	U	0.019	ND	U	0.025	ND	U	0.016		
3-Nitroaniline	99-09-2			ND	U	0.054	ND	U	0.1	ND	U	0.071	ND	U	0.058	ND	U	0.075	ND	U	0.049		
4-Nitroaniline	100-01-6			ND	U	0.055	ND	U	0.1	ND	U	0.073	ND	U	0.059	ND	U	0.076	ND	U	0.05		
2-Nitrophenol	88-75-5			ND	U	0.048	ND	UJ	0.089	ND	U	0.063	ND	U	0.052	ND	U	0.066	ND	U	0.044		
4-Nitrophenol	100-02-7			5.12	ND	U	0.078	ND	U	0.14	ND	U	0.1	ND	U	0.084	ND	U	0.11	ND	U	0.072	
Nitrobenzene	98-95-3	28	14	1.31	ND	U	0.011	ND	UJ	0.021	ND	U	0.015	ND	U	0.012	ND	U	0.016	ND	U	0.011	
N-Nitrosodi-n-propylamine	621-64-7	0.66	0.66	ND	U	0.035	ND	UJ	0.065	ND	U	0.046	ND	U	0.038	ND	U	0.048	ND	U	0.032		
N-Nitrosodiphenylamine	86-30-6	140	600	0.545	ND	U	0.0091	ND	UJ	0.017	ND	U	0.012	ND	U	0.0099	ND	U	0.013	ND	U	0.0084	
2,2'-oxybis[1-chloropropane]	108-60-1	23	67	19.9	ND	U	0.0086	ND	UJ	0.016	ND	U	0.011	ND	U	0.0094	ND	U	0.012	ND	U	0.0079	
Pentachlorophenol	87-86-5	6	24	0.119	ND	U	0.098	ND	U	0.18	ND	U	0.13	ND	U	0.11	ND	U	0.14	ND	U	0.09	
Phenanthrene	85-01-8		300000	45.7	0.17	J	0.0084	1.7	J	0.016	0.2	J	0.011	0.27	J	0.0091	0.95		0.012	0.086	J	0.0077	
Phenol	108-95-2	18000	210000	30	ND	U	0.017	ND	UJ	0.033	ND	U	0.023	ND	U	0.019	ND	U	0.024	ND	U	0.016	
Pyrene	129-00-0	1700	18000	78.5	0.47		0.012		1.5	J	0.022		0.47	J	0.016	0.67		0.013	2	0.017	0.24	J	0.011
1,2,4,5-Tetrachlorobenzene	95-94-3			2.02	ND	U	0.015	ND	UJ	0.028	ND	U	0.02	ND	U	0.016	ND	U	0.021	ND	U	0.014	
2,3,4,6-Tetrachlorophenol	58-90-2			ND	U	0.032	ND	UJ	0.06	ND	U	0.043	ND	U	0.035	ND	U	0.045	ND	U	0.03		
2,4,5-Trichlorophenol	95-95-4	6100	68000	4	ND	U	0.048	ND	UJ	0.091	ND	U	0.064	ND	U	0.053	ND	U	0.068	ND	U	0.045	
2,4,6-Trichlorophenol	88-06-2	62	270	4	ND	U	0.061	ND	UJ	0.11	ND	U	0.081	ND	U	0.066	ND	U	0.085	ND	U	0.056	
Total SVOC Conc.	NA				4.466	NA		22.182	NA		4.61	NA		4.082	NA		20.122	NA		9.655	NA		
Pesticides																							
Aldrin	309-00-2	0.04	0.2	0.00332	ND	U	0.0015	ND	U	0.0014	ND	U	0.0019	ND	U	0.0016	ND	U	0.002	ND	U	0.0013	
alpha-BHC	319-84-6	0.1	0.5	0.0994	ND	U	0.00098	ND	U	0.00096	ND	U	0.0013	ND	U	0.0011	ND	U	0.0014	ND	U	0.0009	
beta-BHC	319-85-7	0.4	2	0.00398	ND	U	0.0011	ND	U	0.0011	ND	U	0.0014	ND	U	0.0012	ND	U	0.0015	ND	U	0.00099	
delta-BHC	319-86-8			ND	U	0.00059	ND	U	0.00058	ND	U	0.00078	ND	U	0.00064	ND	U	0.00082	ND	U	0.00054		
gamma-BHC (Lindane)	58-89-9	0.52	2.2	0.005	ND	U	0.00089	ND	U	0.00088	ND	U	0.0012	ND	U	0.00097	ND	U	0.0012	ND	U	0.00082	
Chlordane (technical)	12789-03-6			ND	U	0.023	ND	U	0.023	ND	U	0.031	ND	U	0.025	ND	U	0.032	ND	U	0.021		
4,4'-DDD	72-54-8	3	13	0.758	ND	U	0.0016	ND	U	0.0016	ND	U	0.0022	ND	U	0.0018	ND	U	0.0023	ND	U	0.0015	
4,4'-DDE	72-55-9	2	9	0.596	ND	U	0.0011	ND	U	0.0011	ND	U	0.0015	ND	U	0.0012	ND	U	0.0016	ND	U	0.001	
4,4'-DDT	50-29-3	2	9	0.0035	ND	U	0.0018	ND	U	0.0017	ND	U	0.0024	ND	U	0.0019	ND	U	0.0025	ND	U	0.0016	
Dieldrin	60-57-1	0.042	0.2	0.00238	ND	U	0.0013	ND	U	0.0012	ND	U	0.0017	ND	U	0.0014	ND	U	0.0017	ND	U	0.0012	
Endosulfan I	959-98-8			ND	U	0.0015	ND	U	0.0014	ND	U	0.002	ND	U	0.0016	ND	U	0.002	ND	U	0.0014		
Endosulfan II	33213-65-9			ND	U	0.0025	ND	U	0.0024	ND	U	0.0033	ND	U	0.0027	ND	U	0.0035	ND	U	0.0023		
Endosulfans (I and II)	115-29-7			ND	U	0.0025	ND	U	0.0024	ND	U	0.0033	ND	U	0.0027	ND	U	0.0035	ND	U	0.0023		

Table 2. Soil Sample Results
 Southeast Leg Pond Area Phase 1 Sampling
 Hatco Remediation Project
 Woodbridge, New Jersey

Sample Identification	CASRN	Site-Specific Soil Criteria	EcoSSL	SEL-PA-SB01-A-B-0-042320	SEL-PA-SB02-A-B-0-042320	SEL-PA-SBNo-A-B-0-042320	SEL-PA-SBEa-A-B-0-042320	SEL-PA-SBSo-A-B-0-042320	SEL-PA-SBWe-A-B-0-042320
				460-207545-15	460-207545-14	460-207545-13	460-207545-12	460-207545-8	460-207545-17
				4/23/2020 16:30	4/23/2020 16:15	4/23/2020 15:55	4/23/2020 15:35	4/23/2020 15:00	4/23/2020 16:40
Parameters Analyzed	RDC	NRDC		Result	Q	MDL	Result	Q	MDL
2,4,5-T	93-76-5			ND	U	0.01	ND	U	0.0095
2,4-D	94-75-7			ND	U	0.017	ND	U	0.016
Silvex (2,4,5-TP)	93-72-1			ND	U	0.005	ND	U	0.0047
Inorganics									
Aluminum	7429-90-5	78000		50	9250	7.3	5750	J	7.2
Antimony	7440-36-0	31	450	0.27	ND	UJ	1.5	ND	UJ
Arsenic	7440-38-2	20	20	9.9	3.6	J	0.8	2.7	J
Barium	7440-39-3	16000	59000	283	57.3	5	28.2	J	4.9
Beryllium	7440-41-7	16	140	10	0.083	J	0.083	0.25	J
Cadmium	7440-43-9	78	100	0.36	ND	U	0.089	ND	U
Calcium	7440-70-2				5160	95.8	2940	J	93.7
Chromium	7440-47-3				0.4	18.3	1.8	61.7	J
Hexavalent Chromium	18540-29-9				130	ND	U	0.51	ND
Cobalt	7440-48-4	1600	590	0.14	7.3	J	0.72	5.1	J
Copper	7440-50-8	3100	45000	5.4	38.6	1.6	25	J	1.6
Iron	7439-89-6				15500	26.7	9920	J	26.1
Lead	7439-92-1	400	800	0.0537	59	0.42	19.4	J	0.41
Magnesium	7439-95-4				3580	87.7	1450	J	85.8
Manganese	7439-96-5	11000	5900	220	229	0.29	374	J	0.29
Mercury	7439-97-6	23	270	0.1	0.1	0.0053	0.12	J	0.005
Nickel	7440-02-0	1600	23000	13.6	16.9	0.68	7.7	J	0.67
Potassium	7440-09-7				910	J	79.6	350	J
Selenium	7782-49-2	390	5700	0.21	ND	U	0.88	ND	U
Silver	7440-22-4	390	5700	2	ND	U	1.5	ND	UJ
Sodium	7440-23-5				237	J	113	127	J
Thallium	7440-28-0				1	ND	U	0.8	ND
Vanadium	7440-62-2	370	7100	2	26.3	1.2	32.4	1.2	45.8
Zinc	7440-66-6	23000	110000	6.62	83.4	1.4	28.7	J	1.4
Cyanide, Total	57-12-5	47	680	1.33	ND	UJ	0.18	ND	UJ
General Chemistry									
Total EPH (C9-C40)	NA				560	2.9	48	J	2.7
pH (Standard Units)	NA				7.4	0.1	7.5	0.1	7.2
Total Organic Carbon	NA				26300	117	9410	J	109

Notes:

Except where noted all results presented in milligrams per kilogram dry weight basis

RDC: Residential Direct Contact

NRDC: Non-Residential Direct Contact

EcoSSL: Ecological Screening Levels and associated notes from NJDEP update dated 3/10/2009: https://www.nj.gov/dep/srp/guidance/ecoscreening/esc_table.pdf

Yellow highlight: Exceeds RDC

Bold face underlined text: Exceeds Ecological soil screening level

Blue highlight: MDL exceeds one or more criteria

CASRN: Chemical Abstract Service Registry Number

NA: Not applicable

ND: Not detected

MDL: Method detection limit

Q: Data qualifiers

J : Result is less than the reporting limit but greater than or equal to the MDL and the concentration is an estimated value

U : Indicates the analyte was analyzed for but not detected



Table 3
Sediment Sample Results

Table 3. Sediment Sample Results
 Southeast Leg Pond Area Phase 1 Sampling
 Hatco Remediation Project
 Woodbridge, New Jersey

Client ID		EcoSSL		SEL-PA-SED01-A-B-0-042320			SEL-PA-SED02-A-B-0-042320			SEL-PA-SED03-A-B-0-042320			SEL-PA-SED04-A-B-0-042320			
				Lowest Effects Level	Severe Effects Level	460-207545-11			460-207545-9			460-207545-6			460-207545-10	
		4/23/2020 14:25			4/23/2020 13:37			4/23/2020 11:20			4/23/2020 15:15					
Parameters Analyzed	CASRN	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
Volatile Organic Compounds																
Acetone	67-64-1				0.27		0.0064	0.024		0.0076	0.011	J	0.0056	0.16		0.008
Benzene	71-43-2	0.142 ⁸		ND	U	0.00029		0.0011	J	0.00034		0.0021		0.013		0.00036
Bromoform	75-25-2	0.492 ⁸		ND	U	0.00047	ND		U	0.00056	ND	U	0.00042	ND	U	0.00059
Bromomethane	74-83-9	0.00137 ⁸		ND	U	0.00053	ND		U	0.00063	ND	U	0.00046	ND	U	0.00066
2-Butanone (MEK)	78-93-3			ND	U	0.003		0.0055	J	0.0036	ND	UJ	0.0026	0.0067	J	0.0038
Carbon disulfide	75-15-0			ND	U	0.0003	ND		U	0.00035	ND	U	0.00026	ND	U	0.00037
Carbon tetrachloride	56-23-5	1.45 ⁸		ND	U	0.00043	ND		U	0.00051	ND	U	0.00038	ND	U	0.00054
Chlorobenzene	108-90-7	0.291 ⁸		ND	U	0.0002	ND		U	0.00023	ND	U	0.00017	ND	U	0.00025
Chlorobromomethane	74-97-5			ND	U	0.00031	ND		U	0.00037	ND	U	0.00027	ND	U	0.00039
Chlorodibromomethane	124-48-1			ND	U	0.00022	ND		U	0.00026	ND	U	0.00019	ND	U	0.00027
Chloroethane	75-00-3			ND	U	0.00058	ND		U	0.00069	ND	U	0.00051	ND	U	0.00073
Chloroform	67-66-3	0.121 ⁸		ND	U	0.00035	ND		U	0.00042	ND	U	0.00031	ND	U	0.00045
Chloromethane	74-87-3			ND	U	0.00048	ND		U	0.00058	ND	U	0.00043	ND	U	0.00061
Cyclohexane	110-82-7			ND	U	0.00025	ND		U	0.00029	ND	U	0.00022	ND	U	0.00031
1,2-Dibromo-3-Chloropropane	96-12-8			ND	U	0.00051	ND		U	0.00061	ND	U	0.00045	ND	U	0.00064
1,2-Dichlorobenzene	95-50-1	0.294 ⁸		ND	U	0.00016	ND		U	0.00019	ND	U	0.00014	ND	U	0.0002
1,3-Dichlorobenzene	541-73-1	1.315 ⁸		ND	U	0.00018	ND		U	0.00021	ND	U	0.00016	ND	U	0.00022
1,4-Dichlorobenzene	106-46-7	0.318 ⁸		ND	U	0.00025	ND		U	0.0003	ND	U	0.00022	ND	U	0.00031
Dichlorobromomethane	75-27-4			ND	U	0.00029	ND		U	0.00034	ND	U	0.00025	ND	U	0.00036
Dichlorodifluoromethane	75-71-8			ND	U	0.00038	ND		U	0.00045	ND	U	0.00033	ND	U	0.00047
1,1-Dichloroethane	75-34-3			ND	U	0.00023	ND		U	0.00027	ND	U	0.0002	ND	U	0.00029
1,2-Dichloroethane	107-06-2	0.26 ⁸		ND	U	0.00033	ND		U	0.00039	ND	U	0.00029	ND	U	0.00041
1,1-Dichloroethene	75-35-4	0.0194 ⁸		ND	U	0.00025	ND		U	0.0003	ND	U	0.00022	ND	U	0.00031
cis-1,2-Dichloroethene	156-59-2			ND	U	0.00017	ND		U	0.0002	ND	U	0.00015	0.00028	J	0.00021
trans-1,2-Dichloroethene	156-60-5	0.654 ⁸		ND	U	0.00027	ND		U	0.00033	ND	U	0.00024	ND	U	0.00034
1,2-Dichloropropane	78-87-5	0.333 ⁸		ND	U	0.00047	ND		U	0.00056	ND	U	0.00041	ND	U	0.00059
cis-1,3-Dichloropropene	10061-01-5			ND	U	0.0003	ND		U	0.00036	ND	U	0.00027	ND	U	0.00038
trans-1,3-Dichloropropene	10061-02-6			ND	U	0.0003	ND		U	0.00035	ND	U	0.00026	ND	U	0.00037
1,3-Dichloropropene (cis and trans)	542-75-6			ND	U	0.0003	ND		U	0.00036	ND	U	0.00027	ND	U	0.00038
1,4-Dioxane	123-91-1			ND	U	0.01	ND	UJ	0.012	ND	UJ	0.009	ND	UJ	0.013	
Ethylbenzene	100-41-4	0.175 ⁸		ND	U	0.00022		0.00029	J	0.00026	ND	U	0.00019	0.00053	J	0.00028
Ethylene Dibromide	106-93-4			ND	U	0.0002	ND		U	0.00024	ND	U	0.00018	ND	U	0.00025
2-Hexanone	591-78-6			ND	U	0.0019	ND		U	0.0023	ND	U	0.0017	ND	U	0.0024
Isopropylbenzene	98-82-8			ND	U	0.00014	ND		U	0.00017	ND	U	0.00012	0.00039	J	0.00018
Methyl acetate	79-20-9			ND	U	0.0048	ND		U	0.0057	ND	U	0.0042	ND	U	0.006
Methylcyclohexane	108-87-2			ND	U	0.00055	ND		U	0.00066		0.0033	0.00049		0.0053	0.0007
Methylene Chloride	75-09-2	0.159 ⁸		ND	U	0.00052	ND		U	0.00061	ND	U	0.00045	ND	U	0.00065
4-Methyl-2-pentanone (MIBK)	108-10-1			ND	U	0.0017	ND		U	0.0021	ND	U	0.0015	ND	U	0.0022
2-Methyl-2-propanol	75-65-0			ND	U	0.0037	ND		U	0.0044	ND	U	0.0032	0.0086	J	0.0046
Methyl tert-butyl ether	1634-04-4			ND	U	0.00014	ND		U	0.00017	ND	U	0.00012	ND	U	0.00017
Styrene	100-42-5	0.254 ⁸		ND	U	0.00031	ND		U	0.00037	ND	U	0.00027	ND	U	0.00039
1,1,1,2-Tetrachloroethane	630-20-6			ND	U	0.00021	ND		U	0.00025	ND	U	0.00019	ND	U	0.00027
1,1,2,2-Tetrachloroethane	79-34-5	0.85 ⁸		ND	UJ	0.00024	ND		UJ	0.00028	ND	UJ	0.00021	ND	UJ	0.0003
Tetrach																

Table 3. Sediment Sample Results
 Southeast Leg Pond Area Phase 1 Sampling
 Hatco Remediation Project
 Woodbridge, New Jersey

Client ID	EcoSSL	SEL-PA-SED01-A-B-0-042320			SEL-PA-SED02-A-B-0-042320			SEL-PA-SED03-A-B-0-042320			SEL-PA-SED04-A-B-0-042320					
		Lowest Effects Level	Severe Effects Level	460-207545-11			460-207545-9			460-207545-6			460-207545-10			
				4/23/2020 14:25			4/23/2020 13:37			4/23/2020 11:20			4/23/2020 15:15			
Parameters Analyzed	CASRN	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL			
1,1,1-Trichloroethane	71-55-6	0.213 ⁸		ND	U	0.00026	ND	U	0.00031	ND	U	0.00023	ND	U	0.00033	
1,1,2-Trichloroethane	79-00-5	0.518 ⁸		ND	UJ	0.0002	ND	U	0.00024	ND	U	0.00017	ND	U	0.00025	
Trichloroethylene	79-01-6	0.112 ⁸		ND	U	0.00016	ND	U	0.00019	ND	U	0.00014	ND	U	0.0002	
Trichlorofluoromethane	75-69-4			ND	U	0.00045	ND	U	0.00054	ND	U	0.0004	ND	U	0.00057	
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1			ND	U	0.00033	ND	U	0.0004	ND	U	0.00029	ND	U	0.00042	
Vinyl chloride	75-01-4	0.202 ⁸		ND	U	0.00061	ND	U	0.00072	ND	U	0.00053	ND	U	0.00076	
m-Xylene & p-Xylene	179601-23-1			ND	U	0.00019	ND	U	0.00023	ND	U	0.00017	0.0012	J	0.00024	
o-Xylene	95-47-6			ND	U	0.00022	ND	U	0.00026	ND	U	0.00019	0.0017		0.00027	
Total xylenes	1330-20-7	0.433 ⁸		ND	U	0.00022	ND	U	0.00026	ND	U	0.00019	0.0017	J	0.00027	
Total VOC Conc.	NA			0.27	J	NA	0.03169	J	NA	0.0164	J	NA	0.1988	J	NA	
Total VOC TICs	NA			ND	U	NA	0.0709	U	NA	0.0463	U	NA	2.542	U	NA	
Semivolatile Organic Compounds																
Acenaphthene	83-32-9	0.00671 ⁸		0.043	J	0.033	0.035	J	0.032	ND	U	0.061	ND	U	0.074	
Acenaphthylene	208-96-8	0.00587 ⁸		ND	U	0.0047	ND	U	0.0045	ND	U	0.0087	ND	U	0.011	
Acetophenone	98-86-2			ND	U	0.022	ND	U	0.021	ND	U	0.041	ND	U	0.05	
Anthracene	120-12-7	0.0572 ⁸	370	0.082	J	0.014	0.062	J	0.013	ND	U	0.026	0.067	J	0.031	
Atrazine	1912-24-9			ND	U	0.011	ND	U	0.011	ND	U	0.021	ND	U	0.026	
Benzaldehyde	100-52-7			ND	U	0.02	ND	U	0.019	ND	U	0.037	ND	U	0.045	
Benzo[a]anthracene	56-55-3	0.108 ⁸	1480	0.31		0.016	0.21		0.015		0.077	J	0.029	0.25		0.036
Benzo[a]pyrene	50-32-8	0.15 ⁸	1440	0.27		0.012	0.21		0.012		0.054	J	0.022	0.2		0.027
Benzo[b]fluoranthene	205-99-2	10.4 ⁸		0.34		0.012	0.25		0.011		0.07	J	0.022	0.25		0.026
Benzo[g,h,i]perylene	191-24-2	0.17	320	0.13	J	0.013		0.1	J	0.013	ND	U	0.025	0.11	J	0.03
Benzo[k]fluoranthene	207-08-9	0.24	1340	0.14		0.0089	0.085		0.0085		0.029	J	0.016	0.098	J	0.02
1,1'-Biphenyl	92-52-4			ND	U	0.006	ND	U	0.0058	ND	U	0.011	ND	U	0.014	
Bis(2-chloroethoxy)methane	111-91-1			ND	U	0.035	ND	U	0.034	ND	U	0.065	ND	U	0.08	
Bis(2-chloroethyl)ether	111-44-4	3.52 ⁸		ND	U	0.016	ND	U	0.015	ND	U	0.029	ND	U	0.036	
Bis(2-ethylhexyl) phthalate	117-81-7	22 ^b	22 ^b	8.9		0.024	8.4		0.023		15		0.044	20		0.054
4-Bromophenyl phenyl ether	101-55-3			ND	U	0.018	ND	U	0.017	ND	U	0.033	ND	U	0.041	
Butyl benzyl phthalate	85-68-7	1.97 ⁸		0.029	J	0.021		0.039	J	0.02	ND	U	0.039	ND	U	0.048
Caprolactam	105-60-2			ND	U	0.071	ND	U	0.067	ND	U	0.13	ND	U	0.16	
Carbazole	86-74-8			0.028	J	0.017	0.023	J	0.017	ND	U	0.032	ND	U	0.039	
4-Chloroaniline	106-47-8			ND	U	0.032	ND	U	0.03	ND	U	0.059	ND	U	0.072	
4-Chloro-3-methylphenol	59-50-7			ND	U	0.026	ND	U	0.024	ND	U	0.047	ND	U	0.057	
2-Chloronaphthalene	91-58-7	0.417 ⁸		ND	U	0.021	ND	U	0.02	ND	U	0.039	ND	U	0.047	
2-Chlorophenol	95-57-8	0.0319 ⁸		ND	U	0.016	ND	U	0.015	ND	U	0.03	ND	U	0.036	
4-Chlorophenyl phenyl ether	7005-72-3			ND	U	0.016	ND	U	0.015	ND	U	0.03	ND	U	0.036	
Chrysene	218-01-9	0.166 ⁸	460	0.3	J	0.0077	0.24	J	0.0073		0.066	J	0.014	0.26	J	0.017
Dibenz(a,h)anthracene	53-70-3	0.033 ⁸	130	0.042	J	0.02	0.036	J	0.019	ND	U	0.036	ND	U	0.044	
Dibenzofuran	132-64-9			0.039	J	0.0064		0.025	J	0.0061	ND	U	0.012	0.036	J	0.014
3,3'-Dichlorobenzidine	91-94-1	0.127 ⁸		ND	U	0.069	ND	U	0.065	ND	U	0.13	ND	U	0.15	
2,4-Dichlorophenol	120-83-2	0.0817 ⁸		ND	U	0.029	ND	U	0.028	ND	U	0.054	ND	U	0.066	
Diethyl phthalate	84-66-2	0.295 ⁸		ND	U	0.0066	ND	U	0.0063	ND	U	0.012	ND	U	0.015	
Dimethyl phthalate	131-11-3			ND	U	0.1	ND	U	0.098	ND	U	0.19	ND	U	0.23	
2,4-Dimethylphenol	105-67-9	0.304 ⁸		ND	U	0.02	ND	U	0.019	ND	U	0.037	ND	U	0.045	
Di-n-butyl phthalate	84-74-2	1.114 ⁸	0.11 ¹⁵	ND	U	0.08	ND	U	0.076	ND	U	0.15	ND	U	0.18	
4,6-Dinitro-2-methylphenol	534-52-1			ND	U	0.074	ND	U	0.07	ND	U	0.14	ND	U	0.17	
2,4-Dinitrophenol	51-28-5	0.00621 ⁸		ND	U	0.22	ND	U	0.21	ND	U	0.41	ND	U	0.5	
2,4-Dinitrot																

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				Lowest Effects Level	Severe Effects Level	460-207545-11			460-207545-9			460-207545-6			460-207545-10		
						4/23/2020 14:25			4/23/2020 13:37			4/23/2020 11:20			4/23/2020 15:15		
Parameters Analyzed	CASRN	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	
2,6-Dinitrotoluene	606-20-2	ND	U	0.033	ND	U	0.031	ND	U	0.061	ND	U	0.074				
Di-n-octyl phthalate	117-84-0	ND	U	0.024	ND	U	0.023	ND	U	0.045	ND	U	0.054				
Fluoranthene	206-44-0	0.423 ⁸	1020	0.48	0.016	J	0.36	J	0.015	0.14	J	0.029	0.51	J	0.036		
Fluorene	86-73-7	0.0774 ⁸	160	0.088 J	0.0062	0.08	J	0.0059	ND	U	0.011	0.067	J	0.014			
Hexachlorobenzene	118-74-1	0.02	24	ND	U	0.022	ND	U	0.021	ND	U	0.04	ND	U	0.049		
Hexachlorobutadiene	87-68-3	0.0265 ⁸		ND	U	0.0097	ND	U	0.0092	ND	U	0.018	ND	U	0.022		
Hexachlorocyclopentadiene	77-47-4	0.901 ⁸		ND	U	0.04	ND	U	0.038	ND	U	0.074	ND	U	0.09		
Hexachloroethane	67-72-1	0.584 ⁸		ND	U	0.016	ND	U	0.015	ND	U	0.029	ND	U	0.035		
Indeno[1,2,3-cd]pyrene	193-39-5	0.2	320	0.15	0.018		0.11		0.017	0.073	J	0.033	0.16		0.04		
Isophorone	78-59-1	0.432 ⁸		ND	U	0.13	ND	U	0.13	ND	U	0.24	ND	U	0.3		
2-Methylnaphthalene	91-57-6	0.0202 ⁸		0.034 J	0.013	0.029	J	0.012	ND	U	0.024	0.037	J	0.029			
2-Methylphenol	95-48-7			ND	U	0.017	ND	U	0.016	ND	U	0.031	ND	U	0.038		
4-Methylphenol	106-44-5			ND	U	0.028	ND	U	0.027	ND	U	0.053	ND	U	0.064		
Naphthalene	91-20-3	0.176 ⁸		0.18 J	0.0079		0.11 J		0.0075	0.11 J		0.015	10		0.018		
2-Nitroaniline	88-74-4			ND	U	0.017	ND	U	0.016	ND	U	0.031	ND	U	0.038		
3-Nitroaniline	99-09-2			ND	U	0.051	ND	U	0.049	ND	U	0.095	ND	U	0.12		
4-Nitroaniline	100-01-6			ND	U	0.052	ND	U	0.05	ND	U	0.097	ND	U	0.12		
2-Nitrophenol	88-75-5			ND	U	0.046	ND	U	0.043	ND	U	0.084	ND	U	0.1		
4-Nitrophenol	100-02-7	0.0133 ⁸		ND	U	0.074	ND	U	0.071	ND	U	0.14	ND	U	0.17		
Nitrobenzene	98-95-3	0.145 ⁸		ND	U	0.011	ND	U	0.01	ND	U	0.02	ND	U	0.025		
N-Nitrosodi-n-propylamine	621-64-7			ND	U	0.033	ND	U	0.031	ND	U	0.061	ND	U	0.074		
N-Nitrosodiphenylamine	86-30-6			ND	U	0.0087	ND	U	0.0083	ND	U	0.016	ND	U	0.02		
2,2'-oxybis[1-chloropropane]	108-60-1			ND	U	0.0082	ND	U	0.0078	ND	U	0.015	ND	U	0.019		
Pentachlorophenol	87-86-5	23 ⁸		ND	U	0.093	ND	U	0.089	ND	U	0.17	ND	U	0.21		
Phenanthrene	85-01-8	0.204 ⁸	950	0.44 J	0.008	0.38	J	0.0076		0.12 J		0.015	0.32	J	0.018		
Phenol	108-95-2	0.0491 ⁸	0.048 ¹⁵	ND	U	0.017	ND	U	0.016	ND	U	0.031	ND	U	0.038		
Pyrene	129-00-0	0.195 ⁸	850	0.69	0.011	0.56		0.011		0.14 J		0.021	0.51	J	0.025		
1,2,4,5-Tetrachlorobenzene	95-94-3			ND	U	0.014	ND	U	0.014	ND	U	0.026	ND	U	0.032		
2,3,4,6-Tetrachlorophenol	58-90-2			ND	U	0.031	ND	U	0.029	ND	U	0.057	ND	U	0.069		
2,4,5-Trichlorophenol	95-95-4			ND	U	0.046	ND	U	0.044	ND	U	0.086	ND	U	0.1		
2,4,6-Trichlorophenol	88-06-2	0.208 ⁸		ND	U	0.058	ND	U	0.056	ND	U	0.11	ND	U	0.13		
Total SVOC Conc.	NA			12.715 J	NA		11.344 J	NA		15.879 J	NA		32.875 J	NA			
Pesticides																	
Aldrin	309-00-2	0.002	8	ND	U	0.0014	ND	U	0.0013	ND	U	0.0013	ND	U	0.0016		
alpha-BHC	319-84-6	0.006	10	ND	U	0.00094	ND	U	0.00089	ND	U	0.00086	ND	U	0.0011		
beta-BHC	319-85-7	0.005	21	ND	U	0.001	ND	U	0.00098	ND	U	0.00095	ND	U	0.0012		
delta-BHC	319-86-8			ND	U	0.00056	ND	U	0.00054	ND	U	0.00052	ND	U	0.00063		
gamma-BHC (Lindane)	58-89-9	0.003	1	ND	U	0.00085	ND	U	0.00081	ND	U	0.00079	ND	U	0.00096		
Chlordane (technical)	12789-03-6			ND	U	0.022	ND	U	0.021	ND	U	0.021	ND	U	0.025		
4,4'-DDD	72-54-8	0.00488 ⁸	6	ND	U	0.0016	ND	U	0.0015	ND	U	0.0014	ND	U	0.0018		
4,4'-DDE	72-55-9	0.00316 ⁸	19	ND	U	0.0011	ND	U	0.001	ND	U	0.001	ND	U	0.0012		
4,4'-DDT	50-29-3	0.00416 ⁸	71	ND	U	0.0017	ND	U	0.0016	ND	U	0.0016	ND	U	0.0019		
Dieldrin	60-57-1	0.0019 ⁸	91	ND	U	0.0012	ND	U	0.0011	ND	U	0.0011	ND	U	0.0013		
Endosulfan I	959-98-8			ND	U	0.0014	ND	U	0.0013	ND	U	0.0013	ND	U	0.0016		
Endosulfan II	33213-65-9			ND	U	0.0024	ND	U	0.0023	ND	U	0.0022	ND	U	0.0027		
Endosulfans (I and II)	115-29-7			ND	U	0.002											

Table 3. Sediment Sample Results
 Southeast Leg Pond Area Phase 1 Sampling
 Hatco Remediation Project
 Woodbridge, New Jersey

Client ID	EcoSSL	SEL-PA-SED01-A-B-0-042320			SEL-PA-SED02-A-B-0-042320			SEL-PA-SED03-A-B-0-042320			SEL-PA-SED04-A-B-0-042320				
		Lowest Effects Level	Severe Effects Level	460-207545-11			460-207545-9			460-207545-6			460-207545-10		
				4/23/2020 14:25			4/23/2020 13:37			4/23/2020 11:20			4/23/2020 15:15		
Parameters Analyzed	CASRN	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL		
Endrin	72-20-8	0.00222 ⁸	130	ND	U	0.0013	ND	U	0.0013	ND	U	0.0012	ND	U	0.0015
Endrin aldehyde	7421-93-4	0.48 ⁸		ND	U	0.0022	ND	U	0.0021	ND	U	0.002	ND	U	0.0024
Endrin ketone	53494-70-5			ND	U	0.0018	ND	U	0.0017	ND	U	0.0017	ND	U	0.002
Heptachlor	76-44-8	0.0006 ⁸	0.01 ¹⁵	ND	U	0.0011	ND	U	0.001	ND	U	0.001	ND	U	0.0012
Heptachlor epoxide	1024-57-3	0.00247 ⁸	5	ND	U	0.0014	ND	U	0.0013	ND	U	0.0013	ND	U	0.0015
Methoxychlor	72-43-5	0.0136 ⁸		ND	U	0.0021	ND	U	0.002	ND	U	0.0019	ND	U	0.0024
Toxaphene	8001-35-2	0.000077 ⁸		ND	U	0.033	ND	U	0.032	ND	U	0.031	ND	U	0.037
PCBs															
Aroclor 1016	12674-11-2	1 ^a		ND	U	0.012	ND	U	0.012	ND	U	0.011	ND	U	0.14
Aroclor 1221	11104-28-2	1 ^a		ND	U	0.012	ND	U	0.012	ND	U	0.011	ND	U	0.14
Aroclor 1232	11141-16-5	1 ^a		ND	U	0.012	ND	U	0.012	ND	U	0.011	ND	U	0.14
Aroclor 1242	53469-21-9	1 ^a		ND	U	0.012	ND	U	0.012	ND	U	0.011	ND	U	0.14
Aroclor 1248	12672-29-6	1 ^a		0.27		0.012	0.46		0.012	0.39		0.011	18		0.14
Aroclor 1254	11097-69-1	1 ^a		ND	U	0.013	ND	U	0.012	ND	U	0.012	ND	U	0.14
Aroclor 1260	11096-82-5	1 ^a		ND	U	0.013	ND	U	0.012	ND	U	0.012	ND	U	0.14
Aroclor 1262	37324-23-5	1 ^a		ND	U	0.013	ND	U	0.012	ND	U	0.012	ND	U	0.14
Aroclor 1268	11100-14-4	1 ^a		ND	U	0.013	ND	U	0.012	ND	U	0.012	ND	U	0.14
Total PCBs	1336-36-3	1 ^a		0.27		0.013	0.46		0.012	0.39		0.012	18		0.14
Herbicides															
2,4,5-T	93-76-5			ND	U	0.0097	ND	U	0.0093	ND	U	0.009	ND	U	0.011
2,4-D	94-75-7			ND	U	0.017	ND	U	0.016	ND	U	0.015	ND	U	0.019
Silvex (2,4,5-TP)	93-72-1			ND	U	0.0048	ND	U	0.0045	ND	U	0.0044	ND	U	0.0054
Inorganics															
Aluminum	7429-90-5	0.0255 ¹⁵		7730	7.1	5960	6.9	5610	6.8	9440		8.1			
Antimony	7440-36-0		3 ¹⁵	ND	U	1.5	ND	U	1.4	ND	U	1.4	ND	U	1.6
Arsenic	7440-38-2	9.979 ⁸	33	5.4		0.78	3.8		0.75	3.3	J	0.74	5.4		0.88
Barium	7440-39-3			51.5		4.9	39.4	J	4.7	28.7	J	4.7	60.5		5.5
Beryllium	7440-41-7			0.52		0.081	0.29	J	0.078	0.27	J	0.077	0.17	J	0.092
Cadmium	7440-43-9	0.99 ⁸	10	ND	U	0.087	ND	U	0.084	ND	U	0.083	0.14	J	0.099
Calcium	7440-70-2			4950		93.2	4350		90.5	3000		89.4	5570		106
Chromium	7440-47-3	43.4 ⁸	110	63.5		1.8	44.9		1.7	29.9		1.7	27.8		2
Hexavalent Chromium	18540-29-9			ND	U	0.48	ND	U	0.46	ND	U	0.45	ND	U	0.54
Cobalt	7440-48-4	50 ⁸		6.2	J	0.7	7.2	J	0.68	3.6	J	0.67	8.7	J	0.79
Copper	7440-50-8	31.6 ⁸	110	50.7		1.6	30.3		1.5	18.2		1.5	33.6		1.8
Iron	7439-89-6			18900		26	15900		25.2	10700		24.9	16400		29.5
Lead	7439-92-1	35.8 ⁸	250	34.4		0.41	19.1		0.4	23.3		0.39	64.6		0.46
Magnesium	7439-95-4			2100		85.4	2010		82.9	1480		81.9	3040		96.9
Manganese	7439-96-5	630 ¹⁵	1100 ¹⁵	418		0.28	276		0.28	250		0.27	387		0.32
Mercury	7439-97-6	0.174 ⁸	2	0.076		0.0052	0.02	J	0.0051	0.025		0.0048	0.094		0.0055
Nickel	7440-02-0	22.7 ⁸	75	10.6		0.66	12.5		0.64	6.7	J	0.64	15.3		0.75
Potassium	7440-09-7			566	J	77.5	439	J	75.2	412	J	74.3	934	J	87.9
Selenium	7782-49-2			ND	U	0.86	ND	U	0.83	ND	U	4.8	ND	U	0.97
Silver	7440-22-4	0.5 ⁸		ND	U	1.4	ND	U	1.4	ND	U	1.4	ND	U	1.6
Sodium	7440-23-5			220	J	110	238	J	106	113	J	105	329	J	125
Thallium	7440-28-0			ND	U	0.78	ND	U	0.76	ND	U	0.75	ND	U	0.89
Vanadium	7440-62-2			61.8		1.2	47.5		1.1	38.9		1.1	33.8		1.3
Zinc	7440-66-6	121 ⁸	820	35.3		1.4	25.9		1.3	32		1.3	74.1		1.6

Table 3. Sediment Sample Results
 Southeast Leg Pond Area Phase 1 Sampling
 Hatco Remediation Project
 Woodbridge, New Jersey

Client ID		EcoSSL		SEL-PA-SED01-A-B-0-042320			SEL-PA-SED02-A-B-0-042320			SEL-PA-SED03-A-B-0-042320			SEL-PA-SED04-A-B-0-042320		
		Lowest Effects Level	Severe Effects Level	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
Cyanide, Total	57-12-5	0.0001 ⁸		ND	U	0.17	ND	UJ	0.16	ND	U	0.16	ND	U	0.19
General Chemistry															
Total EPH (C9-C40)	NA			120		2.8	140		2.6	34	J	2.5	500		3.1
pH (Standard Units)	NA			7		0.1	7.1		0.1	7.4		0.1	7.1		0.1
Total Organic Carbon	NA			16800		112	16800		106	9320		0.103	29700		126

Notes:

EcoSSL: Ecological Screening Levels and associated notes from NJDEP update dated 3/10/2009: https://www.nj.gov/dep/srp/guidance/ecoscreening/esc_table.pdf

⁸: USEPA Region 5, RCRA Ecological Screening Levels (ESLs) represent a protective benchmark (e.g., water quality criteria, sediment quality guidelines/ criteria, and chronic no adverse effect levels) for 223 contaminants and are not intended to serve as cleanup levels, but are intended to function as screening levels. <http://www.epa.gov/reg5rcra/ca/ESL.pdf>

¹⁵: Sediment value from NOAA Screening Quick Reference Tables (SQuaRTs).

^a: Site specific sediment criterion for PCBs is 1 mg/kg

^b: BEHP screening evaluation of 22 mg/kg based on Alternate Remediation Standard previously approved for Woodbridge Pond remediation

Yellow highlight: Exceeds Lowest Effects Level EcoSSL

Blue highlight: MDL exceeds one or screening criteria

CASRN: Chemical Abstract Service Registry Number

NA: Not applicable

ND: Not detected

MDL: Method detection limit

Q: Data qualifiers

J : Result is less than the reporting limit but greater than or equal to the MDL and the concentration is an estimated value

U : Indicates the analyte was analyzed for but not detected.



Table 4

Clean Fill Data Summary

Table 4. Clean Fill Data Summary
 Southeast Leg Pond Area Phase 1 Sampling
 Hatco Remediation Project
 Woodbridge, New Jersey

Sample Identification	CASRN	14103-CF-02/03	1400101-03	CF-BUCH-01	ET-TP7 (4.5-5)	ET-TP7 (11-11.5)	ET-BS22 (5-5.5)	ET-BS22 (9-9.5)	ET-BS23 (5-5.5)	ET-BS24 (5-5.5)	GES_SB3_0.5	GES_TP4_0.5	GES_TP7_0.5	GES_TP15_0.5	
Laboratory Sample Number		3/5/2014	1/17/2014	11/5/2014	10/8/2014	10/8/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014	6/24/2014	6/25/2014	6/25/2014	6/25/2014	
Sample Date and Time		F1563	1400103	F4620-01	JB78845	JB78845	JB78959	JB78959	JB78959	JB78959	4060795	4060831	4060831	4060831	
Parameters Analyzed		Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	
Volatile Organic Compounds															
Acetone	67-64-1	ND	ND	ND	0.0234	ND	ND	0.0244	ND	ND	---	ND	ND	ND	ND
Benzene	71-43-2	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
Bromoform	75-25-2	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
Bromomethane	74-83-9	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
2-Butanone (MEK)	78-93-3	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
Carbon disulfide	75-15-0	ND	ND	ND	0.0013	ND	0.00089	ND	ND	ND	---	ND	ND	ND	ND
Carbon tetrachloride	56-23-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
Chlorobenzene	108-90-7	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
Chlorobromomethane	74-97-5	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chlorodibromomethane	124-48-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
Chloroethane	75-00-3	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
Chloroform	67-66-3	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
Chloromethane	74-87-3	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
Cyclohexane	110-82-7	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2-Dibromo-3-Chloropropane	96-12-8	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
1,2-Dichlorobenzene	95-50-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
1,3-Dichlorobenzene	541-73-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
1,4-Dichlorobenzene	106-46-7	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
Dichlorobromomethane	75-27-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
Dichlorodifluoromethane	75-71-8	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
1,1-Dichloroethane	75-34-3	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
1,2-Dichloroethane	107-06-2	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
1,1-Dichloroethene	75-35-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
cis-1,2-Dichloroethene	156-59-2	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	---	---	---
trans-1,2-Dichloroethene	156-60-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
1,2-Dichloropropane	78-87-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
cis-1,3-Dichloropropene	10061-01-5	---	---	---	---	---	---	---	---	---	---	---	---	---	---
trans-1,3-Dichloropropene	10061-02-6	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,3-Dichloropropene (cis and trans)	542-75-6	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
1,4-Dioxane	123-91-1	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ethylbenzene	100-41-4	ND	---	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
Ethylene Dibromide	106-93-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
2-Hexanone	591-78-6	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Isopropylbenzene	98-82-8	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Methyl acetate	79-20-9	ND	---	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
Methylcyclohexane	108-87-2	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Methylene Chloride	75-09-2	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	108-10-1	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Methyl-2-propanol (TBA)	75-65-0	ND	ND	ND	---	---	---	---	---	---	---	---	ND	ND	ND
Methyl tert-butyl ether	1634-04-4	ND	ND	ND	ND	ND	ND	ND	ND	0.0005	ND	---	ND	ND	ND
Styrene	100-42-5	ND	---	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	630-20-6	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,1,2,2-Tetrachloroethane	79-34-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
Tetrachloroethene	127-18-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
Toluene	108-88-3	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	0.000647	ND	ND	ND
1,2,3-Trichlorobenzene	87-61-6	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2,4-Trichlorobenzene	120-82-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
1,1,1-Trichloroethane	71-55-6	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
1,1,2-Trichloroethane	79-00-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
Trichloroethene	79-01-6	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
Trichlorofluoromethane	75-69-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Vinyl chloride	75-01-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	ND

Table 4. Clean Fill Data Summary
 Southeast Leg Pond Area Phase 1 Sampling
 Hatco Remediation Project
 Woodbridge, New Jersey

Sample Identification	CASRN	14103-CF-02/03	1400101-03	CF-BUCH-01	ET-TP7 (4.5-5)	ET-TP7 (11-11.5)	ET-BS22 (5-5.5)	ET-BS22 (9-9.5)	ET-BS23 (5-5.5)	ET-BS24 (5-5.5)	GES_SB3_0.5	GES_TP4_0.5	GES_TP7_0.5	GES_TP15_0.5	
Laboratory Sample Number		3/5/2014	1/17/2014	11/5/2014	10/8/2014	10/8/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014	6/24/2014	6/25/2014	6/25/2014	6/25/2014	
Sample Date and Time		F1563	1400103	F4620-01	JB78845	JB78845	JB78959	JB78959	JB78959	JB78959	4060795	4060831	4060831	4060831	
Parameters Analyzed		Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	
m-Xylene & p-Xylene	179601-23-1	---	---	---	---	---	---	---	---	---	---	---	---	---	
o-Xylene	95-47-6	---	---	---	---	---	---	---	---	---	---	---	---	---	
Total xylenes	1330-20-7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Total VOC Conc.	NA	ND	ND	ND	0.0247	ND	0.00089	0.0244	0.0005	ND	ND	0.000647	ND	ND	
Total VOC TICs	NA	---	---	---	---	---	---	---	---	---	---	---	---	---	
Semivolatile Organic Compounds															
Acenaphthene	83-32-9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	208-96-8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetophenone	98-86-2	ND	---	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND
Anthracene	120-12-7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Atrazine	1912-24-9	ND	---	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND
Benzaldehyde	100-52-7	ND	---	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND
Benzo[a]anthracene	56-55-3	ND	ND	ND	ND	ND	0.0181	ND	ND	ND	0.0509	ND	0.0858	0.0485	
Benzo[a]pyrene	50-32-8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0575	ND	
Benzo[b]fluoranthene	205-99-2	ND	ND	ND	ND	ND	0.0166	ND	ND	ND	0.0523	ND	0.0735	ND	
Benzo[g,h,i]perylene	191-24-2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Benzo[k]fluoranthene	207-08-9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0378	ND	
1,1'-Biphenyl	92-52-4	ND	---	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND
Bis(2-chloroethoxy)methane	111-91-1	---	---	---	---	---	---	---	---	---	---	---	---	---	
Bis(2-chloroethyl)ether	111-44-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND
Bis(2-ethylhexyl) phthalate	117-81-7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	0.0524	ND
4-Bromophenyl phenyl ether	101-55-3	---	---	---	---	---	---	---	---	---	---	---	---	---	
Butyl benzyl phthalate	85-68-7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND
Caprolactam	105-60-2	ND	---	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND
Carbazole	86-74-8	ND	---	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND
4-Chloroaniline	106-47-8	---	---	---	---	---	---	---	---	---	---	---	---	---	
4-Chloro-3-methylphenol	59-50-7	---	---	---	---	---	---	---	---	---	---	---	---	---	
2-Chloronaphthalene	91-58-7	---	---	---	---	---	---	---	---	---	---	---	---	---	
2-Chlorophenol	95-57-8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND
4-Chlorophenyl phenyl ether	7005-72-3	---	---	---	---	---	---	---	---	---	---	---	---	---	
Chrysene	218-01-9	ND	ND	ND	ND	ND	0.0178	ND	ND	ND	ND	0.0101	ND	0.0618	0.0455
Dibenz(a,h)anthracene	53-70-3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Dibenzofuran	132-64-9	---	---	---	---	---	---	---	---	---	---	---	---	---	
3,3'-Dichlorobenzidine	91-94-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND
2,4-Dichlorophenol	120-83-2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND
Diethyl phthalate	84-66-2	0.00015	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND
Dimethyl phthalate	131-11-3	---	---	---	---	---	---	---	---	---	---	---	---	---	
2,4-Dimethylphenol	105-67-9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND
Di-n-butyl phthalate	84-74-2	ND	ND	ND	ND	ND	ND	0.0721	0.0743	ND	ND	---	ND	ND	ND
4,6-Dinitro-2-methylphenol	534-52-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND
2,4-Dinitrophenol	51-28-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND
2,4-Dinitrotoluene	121-14-2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND
2,6-Dinitrotoluene	606-20-2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND
Di-n-octyl phthalate	117-84-0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND
Fluoranthene	206-44-0	ND	ND	ND	ND	ND	0.0275	ND	ND	ND	0.0795	0.0452	0.118	0.0656	
Fluorene	86-73-7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Hexachlorobenzene	118-74-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	
Hexachlorobutadiene	87-68-3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	
Hexachlorocyclopentadiene	77-47-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	
Hexachloroethane	67-72-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	
Indeno[1,2,3-cd]pyrene	193-39-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Isophorone	78-59-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	
2-Methylnaphthalene	91-57-6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	
2-Methylphenol	95-48-7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	

Table 4. Clean Fill Data Summary
 Southeast Leg Pond Area Phase 1 Sampling
 Hatco Remediation Project
 Woodbridge, New Jersey

Sample Identification	CASRN	14103-CF-02/03	1400101-03	CF-BUCH-01	ET-TP7 (4.5-5)	ET-TP7 (11-11.5)	ET-BS22 (5-5.5)	ET-BS22 (9-9.5)	ET-BS23 (5-5.5)	ET-BS24 (5-5.5)	GES_SB3_0.5	GES_TP4_0.5	GES_TP7_0.5	GES_TP15_0.5	
Laboratory Sample Number		3/5/2014	1/17/2014	11/5/2014	10/8/2014	10/8/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014	6/24/2014	6/25/2014	6/25/2014	6/25/2014	
Sample Date and Time		F1563	1400103	F4620-01	JB78845	JB78845	JB78959	JB78959	JB78959	JB78959	4060795	4060831	4060831	4060831	
Parameters Analyzed		Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	
4-Methylphenol	106-44-5	---	---	---	---	---	---	---	---	---	---	---	---	---	
Naphthalene	91-20-3	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0791	ND	ND	ND	
2-Nitroaniline	88-74-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
3-Nitroaniline	99-09-2	---	---	---	---	---	---	---	---	---	---	---	---	---	
4-Nitroaniline	100-01-6	---	---	---	---	---	---	---	---	---	---	---	---	---	
2-Nitrophenol	88-75-5	ND	ND	---	ND	ND	ND	ND	ND	ND	---	ND	---	---	
4-Nitrophenol	100-02-7	---	---	---	---	---	---	---	---	---	---	---	---	---	
Nitrobenzene	98-95-3	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
N-Nitrosodi-n-propylamine	621-64-7	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
N-Nitrosodiphenylamine	86-30-6	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
2,2'-oxybis[1-chloropropane]	108-60-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
Pentachlorophenol	87-86-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
Phenanthrene	85-01-8	ND	ND	ND	ND	ND	0.0178	ND	ND	ND	0.0473	ND	0.064	ND	
Phenol	108-95-2	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
Pyrene	129-00-0	ND	ND	ND	ND	ND	0.029	ND	ND	ND	0.0652	0.0445	0.112	0.0604	
1,2,4,5-Tetrachlorobenzene	95-94-3	---	---	---	---	---	---	---	---	---	---	---	---	---	
2,3,4,6-Tetrachlorophenol	58-90-2	---	---	---	---	---	---	---	---	---	---	---	---	---	
2,4,5-Trichlorophenol	95-95-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
2,4,6-Trichlorophenol	88-06-2	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
Total SVOC Conc.	NA	0.00015	ND	ND	ND	ND	0.0921	0.0721	0.0743	0.0791	0.2021	0.0897	0.4082	0.1715	
Pesticides															
Aldrin	309-00-2	---	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
alpha-BHC	319-84-6	---	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
beta-BHC	319-85-7	---	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
delta-BHC	319-86-8	---	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
gamma-BHC (Lindane)	58-89-9	---	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
Chlordane (technical)	12789-03-6	---	---	---	---	---	---	---	---	---	---	---	---	---	
4,4'-DDD	72-54-8	---	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
4,4'-DDE	72-55-9	---	ND	ND	ND	ND	ND	0.00087	ND	ND	---	ND	ND	ND	
4,4'-DDT	50-29-3	---	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
Dieldrin	60-57-1	---	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
Endosulfan I	959-98-8	---	---	---	---	---	---	---	---	---	---	---	---	---	
Endosulfan II	33213-65-9	---	---	---	---	---	---	---	---	---	---	---	---	---	
Endosulfans (I and II)	115-29-7	---	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
Endosulfan sulfate	1031-07-8	---	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
Endrin	72-20-8	---	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
Endrin aldehyde	7421-93-4	---	---	---	---	---	---	---	---	---	---	---	---	---	
Endrin ketone	53494-70-5	---	---	---	---	---	---	---	---	---	---	---	---	---	
Heptachlor	76-44-8	---	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
Heptachlor epoxide	1024-57-3	---	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
Methoxychlor	72-43-5	---	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
Toxaphene	8001-35-2	---	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
PCBs															
Aroclor 1016	12674-11-2	---	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
Aroclor 1221	11104-28-2	---	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
Aroclor 1232	11141-16-5	---	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
Aroclor 1242	53469-21-9	---	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
Aroclor 1248	12672-29-6	---	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
Aroclor 1254	11097-69-1	---	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
Aroclor 1260	11096-82-5	---	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
Aroclor 1262	37324-23-5	---	---	---	---	---	---	---	---	---	---	---	---	---	
Aroclor 1268	11100-14-4	---	---	---	---	---	---	---	---	---	---	---	---	---	
Total PCBs	1336-36-3	---	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
Herbicides															

Table 4. Clean Fill Data Summary
 Southeast Leg Pond Area Phase 1 Sampling
 Hatco Remediation Project
 Woodbridge, New Jersey

Sample Identification	CASRN	14103-CF-02/03	1400101-03	CF-BUCH-01	ET-TP7 (4.5-5)	ET-TP7 (11-11.5)	ET-BS22 (5-5.5)	ET-BS22 (9-9.5)	ET-BS23 (5-5.5)	ET-BS24 (5-5.5)	GES_SB3_0.5	GES_TP4_0.5	GES_TP7_0.5	GES_TP15_0.5	
Laboratory Sample Number		3/5/2014	1/17/2014	11/5/2014	10/8/2014	10/8/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014	6/24/2014	6/25/2014	6/25/2014	6/25/2014	
Sample Date and Time		F1563	1400103	F4620-01	JB78845	JB78845	JB78959	JB78959	JB78959	JB78959	4060795	4060831	4060831	4060831	
Parameters Analyzed		Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	
2,4,5-T	93-76-5	---	---	---	---	---	---	---	---	---	---	---	---	---	
2,4-D	94-75-7	---	---	---	---	---	---	---	---	---	---	---	---	---	
Silvex (2,4,5-TP)	93-72-1	---	---	---	---	---	---	---	---	---	---	---	---	---	
Inorganics															
Aluminum	7429-90-5	---	2170	330	1990	476	3270	595	265	387	2520	1400	2560	6220	
Antimony	7440-36-0	---	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Arsenic	7440-38-2	---	2.26	1.64	3.7	ND	ND	3.8	ND	ND	1.73	0.624	1.94	9.53	
Barium	7440-39-3	---	31.1	4.16	ND	ND	ND	ND	ND	ND	14.3	5.44	14.4	92.6	
Beryllium	7440-41-7	---	ND	0.091	ND	ND	ND	ND	ND	ND	0.21	0.077	0.209	1.13	
Cadmium	7440-43-9	---	ND	ND	ND	ND	ND	ND	ND	ND	0.0598	ND	ND	0.216	
Calcium	7440-70-2	---	---	---	---	---	---	---	---	---	---	---	---	---	
Chromium	7440-47-3	---	---	---	---	---	---	---	---	---	---	---	---	---	
Hexavalent Chromium	18540-29-9	ND	---	ND	---	---	---	---	---	---	---	ND	ND	ND	
Cobalt	7440-48-4	---	ND	0.558	ND	ND	ND	ND	ND	ND	0.955	1.22	1.3	4.79	
Copper	7440-50-8	---	14.9	3.48	46.7	3.8	7.5	ND	7.3	4.1	9.6	6.52	8.49	23.8	
Iron	7439-89-6	---	---	---	---	---	---	---	---	---	---	---	---	---	
Lead	7439-92-1	---	7.46	2.55	10.2	2.3	7.6	ND	3.1	ND	5.95	3.23	6.04	11.3	
Magnesium	7439-95-4	---	---	---	---	---	---	---	---	---	---	---	---	---	
Manganese	7439-96-5	---	514	2.6	5.4	2.6	9.7	2.4	2.1	ND	15.6	7.07	13.6	51.2	
Mercury	7439-97-6	---	ND	0.015	ND	ND	ND	ND	ND	ND	ND	ND	0.0262	0.0559	
Nickel	7440-02-0	---	ND	0.746	ND	ND	ND	ND	ND	ND	2.09	1.22	2.25	9.99	
Potassium	7440-09-7	---	---	---	---	---	---	---	---	---	---	---	---	---	
Selenium	7782-49-2	---	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.909	
Silver	7440-22-4	---	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Sodium	7440-23-5	---	---	---	---	---	---	---	---	---	---	---	---	---	
Thallium	7440-28-0	---	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.41	
Vanadium	7440-62-2	5.2	26.1	21.5	56.5	16.3	24.7	5.4	28.8	11.2	16.1	21.7	16.7	35	
Zinc	7440-66-6	2.8	12	1.49	ND	ND	7.2	ND	ND	ND	8.24	3.87	8.68	20.7	
Cyanide, Total	57-12-5	---	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	ND	ND	
General Chemistry															
Total EPH (C9-C40)	NA	3.64	---	2.91	ND	ND	36.5	ND	ND	ND	---	ND	ND	ND	
pH (Standard Units)	NA	5.14	---	---	---	---	---	---	---	---	---	3.7	5.5	7.8	
Total Organic Carbon	NA	---	---	---	---	---	---	---	---	---	---	---	---	---	

Notes:

All results presented in milligrams per kilogram dry weight basis

---: Sample not analyzed for parameter indicated

NA: Not applicable

ND: Not detected

CASRN: Chemical Abstract Service Registry Number

Source: Data from Southeast Leg Remediation Project clean fill

submittal dated November 10, 2014

Table 4. Clean Fill Data Summary
Southeast Leg Pond Area Phase 1 Sampling

Hatco Remediation Project
Woodbridge, New Jersey

Sample Identification	CASRN	GES_SB2_0.5	GES_TP15_1.5	AS_SB-1_0.5
Laboratory Sample Number		6/26/2014	6/26/2014	7/10/2014
Sample Date and Time		4060880	4060880	4070365
Parameters Analyzed		Result	Result	Result
Volatile Organic Compounds				
Acetone	67-64-1	---	ND	---
Benzene	71-43-2	---	ND	---
Bromoform	75-25-2	---	ND	---
Bromomethane	74-83-9	---	ND	---
2-Butanone (MEK)	78-93-3	---	ND	---
Carbon disulfide	75-15-0	---	ND	---
Carbon tetrachloride	56-23-5	---	ND	---
Chlorobenzene	108-90-7	---	ND	---
Chlorobromomethane	74-97-5	---	---	---
Chlorodibromomethane	124-48-1	---	ND	---
Chloroethane	75-00-3	---	ND	---
Chloroform	67-66-3	---	ND	---
Chloromethane	74-87-3	---	ND	---
Cyclohexane	110-82-7	---	---	---
1,2-Dibromo-3-Chloropropane	96-12-8	---	ND	---
1,2-Dichlorobenzene	95-50-1	---	ND	---
1,3-Dichlorobenzene	541-73-1	---	ND	---
1,4-Dichlorobenzene	106-46-7	---	ND	---
Dichlorobromomethane	75-27-4	---	ND	---
Dichlorodifluoromethane	75-71-8	---	ND	---
1,1-Dichloroethane	75-34-3	---	ND	---
1,2-Dichloroethane	107-06-2	---	ND	---
1,1-Dichloroethene	75-35-4	---	ND	---
cis-1,2-Dichloroethene	156-59-2	---	---	---
trans-1,2-Dichloroethene	156-60-5	---	ND	---
1,2-Dichloropropane	78-87-5	---	ND	---
cis-1,3-Dichloropropene	10061-01-5	---	---	---
trans-1,3-Dichloropropene	10061-02-6	---	---	---
1,3-Dichloropropene (cis and trans)	542-75-6	---	ND	---
1,4-Dioxane	123-91-1	---	---	---
Ethylbenzene	100-41-4	---	ND	---
Ethylene Dibromide	106-93-4	---	ND	---
2-Hexanone	591-78-6	---	---	---
Isopropylbenzene	98-82-8	---	---	---
Methyl acetate	79-20-9	---	ND	---
Methylcyclohexane	108-87-2	---	---	---
Methylene Chloride	75-09-2	---	ND	---
4-Methyl-2-pentanone (MIBK)	108-10-1	---	---	---
2-Methyl-2-propanol (TBA)	75-65-0	---	ND	---
Methyl tert-butyl ether	1634-04-4	---	ND	---
Styrene	100-42-5	---	ND	---
1,1,1,2-Tetrachloroethane	630-20-6	---	---	---
1,1,2,2-Tetrachloroethane	79-34-5	---	ND	---
Tetrachloroethene	127-18-4	---	ND	---
Toluene	108-88-3	---	ND	---
1,2,3-Trichlorobenzene	87-61-6	---	---	---
1,2,4-Trichlorobenzene	120-82-1	---	ND	---
1,1,1-Trichloroethane	71-55-6	---	ND	---
1,1,2-Trichloroethane	79-00-5	---	ND	---
Trichloroethene	79-01-6	---	ND	---
Trichlorofluoromethane	75-69-4	---	ND	---
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	---	---	---
Vinyl chloride	75-01-4	---	ND	---

Table 4. Clean Fill Data Summary
 Southeast Leg Pond Area Phase 1 Sampling
 Hatco Remediation Project
 Woodbridge, New Jersey

Sample Identification	CASRN	GES_SB2_0.5	GES_TP15_1.5	AS_SB-1_0.5
Laboratory Sample Number		6/26/2014	6/26/2014	7/10/2014
Sample Date and Time		4060880	4060880	4070365
Parameters Analyzed		Result	Result	Result
m-Xylene & p-Xylene	179601-23-1	---	---	---
o-Xylene	95-47-6	---	---	---
Total xylenes	1330-20-7	---	ND	---
Total VOC Conc.	NA	ND	ND	ND
Total VOC TICs	NA	---	---	---
Semivolatile Organic Compounds				
Acenaphthene	83-32-9	ND	ND	ND
Acenaphthylene	208-96-8	ND	ND	ND
Acetophenone	98-86-2	---	ND	---
Anthracene	120-12-7	0.0359	ND	ND
Atrazine	1912-24-9	---	ND	---
Benzaldehyde	100-52-7	---	ND	---
Benzo[a]anthracene	56-55-3	0.0612	ND	ND
Benzo[a]pyrene	50-32-8	0.0577	ND	ND
Benzo[b]fluoranthene	205-99-2	0.0921	ND	ND
Benzo[g,h,i]perylene	191-24-2	0.0366	ND	ND
Benzo[k]fluoranthene	207-08-9	0.0373	ND	ND
1,1'-Biphenyl	92-52-4	---	ND	---
Bis(2-chloroethoxy)methane	111-91-1	---	---	---
Bis(2-chloroethyl)ether	111-44-4	---	ND	---
Bis(2-ethylhexyl) phthalate	117-81-7	---	ND	---
4-Bromophenyl phenyl ether	101-55-3	---	---	---
Butyl benzyl phthalate	85-68-7	---	ND	---
Caprolactam	105-60-2	---	ND	---
Carbazole	86-74-8	---	ND	---
4-Chloroaniline	106-47-8	---	---	---
4-Chloro-3-methylphenol	59-50-7	---	---	---
2-Chloronaphthalene	91-58-7	---	---	---
2-Chlorophenol	95-57-8	---	ND	---
4-Chlorophenyl phenyl ether	7005-72-3	---	---	---
Chrysene	218-01-9	0.0802	ND	ND
Dibenz(a,h)anthracene	53-70-3	ND	ND	ND
Dibenzofuran	132-64-9	---	---	---
3,3'-Dichlorobenzidine	91-94-1	---	ND	---
2,4-Dichlorophenol	120-83-2	---	ND	---
Diethyl phthalate	84-66-2	---	ND	---
Dimethyl phthalate	131-11-3	---	---	---
2,4-Dimethylphenol	105-67-9	---	ND	---
Di-n-butyl phthalate	84-74-2	---	ND	---
4,6-Dinitro-2-methylphenol	534-52-1	---	ND	---
2,4-Dinitrophenol	51-28-5	---	ND	---
2,4-Dinitrotoluene	121-14-2	---	ND	---
2,6-Dinitrotoluene	606-20-2	---	ND	---
Di-n-octyl phthalate	117-84-0	---	ND	---
Fluoranthene	206-44-0	0.12	ND	ND
Fluorene	86-73-7	ND	ND	ND
Hexachlorobenzene	118-74-1	---	ND	---
Hexachlorobutadiene	87-68-3	---	ND	---
Hexachlorocyclopentadiene	77-47-4	---	ND	---
Hexachloroethane	67-72-1	---	ND	---
Indeno[1,2,3-cd]pyrene	193-39-5	ND	ND	ND
Isophorone	78-59-1	---	ND	---
2-Methylnaphthalene	91-57-6	---	ND	---
2-Methylphenol	95-48-7	---	ND	---

Table 4. Clean Fill Data Summary
 Southeast Leg Pond Area Phase 1 Sampling
 Hatco Remediation Project
 Woodbridge, New Jersey

Sample Identification	CASRN	GES_SB2_0.5	GES_TP15_1.5	AS_SB-1_0.5
Laboratory Sample Number		6/26/2014	6/26/2014	7/10/2014
Sample Date and Time		4060880	4060880	4070365
Parameters Analyzed		Result	Result	Result
4-Methylphenol	106-44-5	---	---	---
Naphthalene	91-20-3	ND	ND	ND
2-Nitroaniline	88-74-4	---	ND	---
3-Nitroaniline	99-09-2	---	---	---
4-Nitroaniline	100-01-6	---	---	---
2-Nitrophenol	88-75-5	---	0	---
4-Nitrophenol	100-02-7	---	---	---
Nitrobenzene	98-95-3	---	ND	---
N-Nitrosodi-n-propylamine	621-64-7	---	ND	---
N-Nitrosodiphenylamine	86-30-6	---	ND	---
2,2'-oxybis[1-chloropropane]	108-60-1	---	ND	---
Pentachlorophenol	87-86-5	---	ND	---
Phenanthrene	85-01-8	0.0499	ND	ND
Phenol	108-95-2	---	ND	---
Pyrene	129-00-0	0.11	ND	ND
1,2,4,5-Tetrachlorobenzene	95-94-3	---	---	---
2,3,4,6-Tetrachlorophenol	58-90-2	---	---	---
2,4,5-Trichlorophenol	95-95-4	---	ND	---
2,4,6-Trichlorophenol	88-06-2	---	ND	---
Total SVOC Conc.	NA	0.3601	ND	ND
Pesticides				
Aldrin	309-00-2	---	ND	---
alpha-BHC	319-84-6	---	ND	---
beta-BHC	319-85-7	---	ND	---
delta-BHC	319-86-8	---	ND	---
gamma-BHC (Lindane)	58-89-9	---	ND	---
Chlordane (technical)	12789-03-6	---	---	---
4,4'-DDD	72-54-8	---	ND	---
4,4'-DDE	72-55-9	---	ND	---
4,4'-DDT	50-29-3	---	ND	---
Dieldrin	60-57-1	---	ND	---
Endosulfan I	959-98-8	---	---	---
Endosulfan II	33213-65-9	---	---	---
Endosulfans (I and II)	115-29-7	---	ND	---
Endosulfan sulfate	1031-07-8	---	ND	---
Endrin	72-20-8	---	ND	---
Endrin aldehyde	7421-93-4	---	---	---
Endrin ketone	53494-70-5	---	---	---
Heptachlor	76-44-8	---	ND	---
Heptachlor epoxide	1024-57-3	---	ND	---
Methoxychlor	72-43-5	---	ND	---
Toxaphene	8001-35-2	---	ND	---
PCBs				
Aroclor 1016	12674-11-2	---	ND	---
Aroclor 1221	11104-28-2	---	ND	---
Aroclor 1232	11141-16-5	---	ND	---
Aroclor 1242	53469-21-9	---	ND	---
Aroclor 1248	12672-29-6	---	ND	---
Aroclor 1254	11097-69-1	---	ND	---
Aroclor 1260	11096-82-5	---	ND	---
Aroclor 1262	37324-23-5	---	---	---
Aroclor 1268	11100-14-4	---	---	---
Total PCBs	1336-36-3	---	ND	---
Herbicides				

Table 4. Clean Fill Data Summary
 Southeast Leg Pond Area Phase 1 Sampling
 Hatco Remediation Project
 Woodbridge, New Jersey

Sample Identification	CASRN	GES_SB2_0.5	GES_TP15_1.5	AS_SB-1_0.5
Laboratory Sample Number		6/26/2014	6/26/2014	7/10/2014
Sample Date and Time		4060880	4060880	4070365
Parameters Analyzed		Result	Result	Result
2,4,5-T	93-76-5	---	---	---
2,4-D	94-75-7	---	---	---
Silvex (2,4,5-TP)	93-72-1	---	---	---
Inorganics				
Aluminum	7429-90-5	3590	584	678
Antimony	7440-36-0	ND	ND	ND
Arsenic	7440-38-2	1.7	ND	ND
Barium	7440-39-3	19.1	0.879	2.5
Beryllium	7440-41-7	0.139	ND	0.0419
Cadmium	7440-43-9	ND	ND	ND
Calcium	7440-70-2	---	---	---
Chromium	7440-47-3	---	---	---
Hexavalent Chromium	18540-29-9	0	---	---
Cobalt	7440-48-4	1.62	ND	0.273
Copper	7440-50-8	13.8	1.37	3.01
Iron	7439-89-6	---	---	---
Lead	7439-92-1	7.71	0.857	1.44
Magnesium	7439-95-4	---	---	---
Manganese	7439-96-5	205	0.609	9.67
Mercury	7439-97-6	ND	ND	ND
Nickel	7440-02-0	2.57	ND	0.575
Potassium	7440-09-7	---	---	---
Selenium	7782-49-2	ND	ND	ND
Silver	7440-22-4	ND	ND	ND
Sodium	7440-23-5	---	---	---
Thallium	7440-28-0	0.77	ND	ND
Vanadium	7440-62-2	28.3	0	12.3
Zinc	7440-66-6	8.66	0	ND
Cyanide, Total	57-12-5	---	ND	---
General Chemistry				
Total EPH (C9-C40)	NA	---	ND	---
pH (Standard Units)	NA	---	4	---
Total Organic Carbon	NA	---	---	---

Notes:

All results presented in milligrams per kilogram dry weight basis

---: Sample not analyzed for parameter indicated

NA: Not applicable

ND: Not detected

CASRN: Chemical Abstract Service Registry Number

Source: Data from Southeast Leg Remediation Project clean fill

submittal dated November 10, 2014



Table 5

Clean Fill and SEL Pond Area Sample Data Comparison

Table 5. Clean Fill and SEL Pond Area Sample Data Comparison

Southeast Leg Pond Area Phase 1 Sampling

Hatco Remediation Project

Woodbridge, New Jersey

Parameters Analyzed	CASRN	Clean Fill Data Summary		SEL Pond Soil and Sediment		Order of Magnitude Variance	Summary of Comparison
		Frequency of Detections	Maximum Result Reported	Frequency of Detections	Maximum Result Reported		
Volatile Organic Compounds							
Acetone	67-64-1	2 of 13	0.0244	8 of 10	0.27	1.04	Potential new contaminant: Maximum concentration exceeds clean fill by more than 10x
Benzene	71-43-2	0 of 13	ND	5 of 10	0.013	--	Potential new contaminant: Not detected in clean fill
Bromoform	75-25-2	0 of 13	ND	0 of 10	ND	--	
Bromomethane	74-83-9	0 of 13	ND	0 of 10	ND	--	
2-Butanone (MEK)	78-93-3	0 of 13	ND	5 of 10	0.015	--	Potential new contaminant: Not detected in clean fill
Carbon disulfide	75-15-0	2 of 13	0.0013	0 of 10	ND	--	
Carbon tetrachloride	56-23-5	0 of 13	ND	0 of 10	ND	--	
Chlorobenzene	108-90-7	0 of 13	ND	0 of 10	ND	--	
Chlorobromomethane	74-97-5	---	---	0 of 10	ND	--	
Chlorodibromomethane	124-48-1	0 of 13	ND	0 of 10	ND	--	
Chloroethane	75-00-3	0 of 13	ND	0 of 10	ND	--	
Chloroform	67-66-3	0 of 13	ND	0 of 10	ND	--	
Chloromethane	74-87-3	0 of 13	ND	0 of 10	ND	--	
Cyclohexane	110-82-7	---	---	0 of 10	ND	--	
1,2-Dibromo-3-Chloropropane	96-12-8	0 of 13	ND	0 of 10	ND	--	
1,2-Dichlorobenzene	95-50-1	0 of 13	ND	0 of 10	ND	--	
1,3-Dichlorobenzene	541-73-1	0 of 13	ND	0 of 10	ND	--	
1,4-Dichlorobenzene	106-46-7	0 of 13	ND	0 of 10	ND	--	
Dichlorobromomethane	75-27-4	0 of 13	ND	0 of 10	ND	--	
Dichlorodifluoromethane	75-71-8	0 of 13	ND	0 of 10	ND	--	
1,1-Dichloroethane	75-34-3	0 of 13	ND	0 of 10	ND	--	
1,2-Dichloroethane	107-06-2	0 of 13	ND	0 of 10	ND	--	
1,1-Dichloroethene	75-35-4	0 of 13	ND	0 of 10	ND	--	
cis-1,2-Dichloroethene	156-59-2	0 of 10	ND	1 of 10	0.00028	--	Detected in only one sample at concentration below criteria. No further sampling recommended.
trans-1,2-Dichloroethene	156-60-5	0 of 13	ND	0 of 10	ND	--	
1,2-Dichloropropane	78-87-5	0 of 13	ND	0 of 10	ND	--	
cis-1,3-Dichloropropene	10061-01-5	---	---	0 of 10	ND	--	
trans-1,3-Dichloropropene	10061-02-6	---	---	0 of 10	ND	--	
1,3-Dichloropropene (cis and trans)	542-75-6	0 of 13	ND	0 of 10	ND	--	
1,4-Dioxane	123-91-1	---	---	0 of 10	ND	--	
Ethylbenzene	100-41-4	0 of 12	ND	2 of 10	0.00053	--	Potential new contaminant: Not detected in clean fill
Ethylene Dibromide	106-93-4	0 of 13	ND	0 of 10	ND	--	
2-Hexanone	591-78-6	---	---	0 of 10	ND	--	
Isopropylbenzene	98-82-8	---	---	1 of 10	0.00039	--	Detected in only one sample at estimated concentration below reporting limit. No further sampling recommended.
Methyl acetate	79-20-9	0 of 12	ND	0 of 10	ND	--	
Methylcyclohexane	108-87-2	---	---	2 of 10	0.0053	--	Potential new contaminant: Not detected in clean fill
Methylene Chloride	75-09-2	0 of 13	ND	0 of 10	ND	--	
4-Methyl-2-pentanone (MIBK)	108-10-1	---	---	0 of 10	ND	--	
2-Methyl-2-propanol (TBA)	75-65-0	0 of 7	ND	1 of 10	0.0086	--	Potential new contaminant: Not detected in clean fill
Methyl tert-butyl ether	1634-04-4	1 of 13	0.0005	0 of 10	ND	--	
Styrene	100-42-5	0 of 12	ND	1 of 10	0.00034	--	Detected in only one sample at estimated concentration below reporting limit. No further sampling recommended.
1,1,1,2-Tetrachloroethane	630-20-6	---	---	0 of 10	ND	--	
1,1,2,2-Tetrachloroethane	79-34-5	0 of 13	ND	0 of 10	ND	--	
Tetrachloroethene	127-18-4	0 of 13	ND	0 of 10	ND	--	
Toluene	108-88-3	1 of 13	0.000647	3 of 10	0.0021	0.51	Potential new contaminant: Not detected in clean fill
1,2,3-Trichlorobenzene	87-61-6	---	---	0 of 10	ND	--	
1,2,4-Trichlorobenzene	120-82-1	0 of 13	ND	0 of 10	ND	--	
1,1,1-Trichloroethane	71-55-6	0 of 13	ND	0 of 10	ND	--	
1,1,2-Trichloroethane	79-00-5	0 of 13	ND	0 of 10	ND	--	
Trichloroethene	79-01-6	0 of 13	ND	0 of 10	ND	--	
Trichlorofluoromethane	75-69-4	0 of 13	ND	0 of 10	ND	--	
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	---	---	0 of 10	ND	--	
Vinyl chloride	75-01-4	0 of 13	ND	0 of 10	ND	--	

Table 5. Clean Fill and SEL Pond Area Sample Data Comparison

Southeast Leg Pond Area Phase 1 Sampling

Hatco Remediation Project

Woodbridge, New Jersey

Parameters Analyzed	CASRN	Clean Fill Data Summary		SEL Pond Soil and Sediment		Order of Magnitude Variance	Summary of Comparison
		Frequency of Detections	Maximum Result Reported	Frequency of Detections	Maximum Result Reported		
m-Xylene & p-Xylene	179601-23-1	---	---	1 of 10	0.0012	--	Potential new contaminant: Not detected in clean fill
o-Xylene	95-47-6	---	---	1 of 10	0.0017	--	Potential new contaminant: Not detected in clean fill
Total xylenes	1330-20-7	0 of 13	ND	1 of 10	0.0017	--	Potential new contaminant: Not detected in clean fill
Total VOC Conc.	NA	5 of 16	0.0247	9 of 10	0.27	1.04	
Total VOC TICs	NA	---	---	5 of 10	2.542	--	
Semivolatile Organic Compounds							
Acenaphthene	83-32-9	0 of 16	ND	4 of 10	0.085	--	Potential new contaminant: Not detected in clean fill
Acenaphthylene	208-96-8	0 of 16	ND	4 of 10	0.042	--	Potential new contaminant: Not detected in clean fill
Acetophenone	98-86-2	0 of 12	ND	0 of 10	ND	--	
Anthracene	120-12-7	1 of 16	0.0359	6 of 10	0.3	0.92	Potential new contaminant: Maximum concentration exceeds clean fill by nearly 10x
Atrazine	1912-24-9	0 of 12	ND	0 of 10	ND	--	
Benzaldehyde	100-52-7	0 of 12	ND	2 of 10	0.031	--	Potential new contaminant: Not detected in clean fill
Benzo[a]anthracene	56-55-3	5 of 16	0.0858	10 of 10	0.97	1.05	Potential new contaminant: Maximum concentration exceeds clean fill by more than 10x
Benzo[a]pyrene	50-32-8	2 of 16	0.0577	10 of 10	0.95	1.22	Potential new contaminant: Maximum concentration exceeds clean fill by more than 10x
Benzo[b]fluoranthene	205-99-2	4 of 16	0.0921	10 of 10	1.2	1.11	Potential new contaminant: Maximum concentration exceeds clean fill by more than 10x
Benzo[g,h,i]perylene	191-24-2	1 of 16	0.0366	9 of 10	0.4	1.04	Potential new contaminant: Maximum concentration exceeds clean fill by more than 10x
Benzo[k]fluoranthene	207-08-9	2 of 16	0.0378	10 of 10	0.4	1.02	Potential new contaminant: Maximum concentration exceeds clean fill by more than 10x
1,1'-Biphenyl	92-52-4	0 of 12	ND	0 of 10	ND	--	
Bis(2-chloroethoxy)methane	111-91-1	---	---	0 of 10	ND	--	
Bis(2-chloroethyl)ether	111-44-4	0 of 13	ND	0 of 10	ND	--	
Bis(2-ethylhexyl) phthalate	117-81-7	1 of 13	0.0524	10 of 10	20	2.58	Potential new contaminant: Maximum concentration exceeds clean fill by more than 10x
4-Bromophenyl phenyl ether	101-55-3	---	---	0 of 10	ND	--	
Butyl benzyl phthalate	85-68-7	0 of 13	ND	3 of 10	0.054	--	Potential new contaminant: Not detected in clean fill
Caprolactam	105-60-2	0 of 12	ND	0 of 10	ND	--	
Carbazole	86-74-8	0 of 12	ND	5 of 10	0.17	--	Potential new contaminant: Not detected in clean fill
4-Chloroaniline	106-47-8	---	---	0 of 10	ND	--	
4-Chloro-3-methylphenol	59-50-7	---	---	0 of 10	ND	--	
2-Chloronaphthalene	91-58-7	---	---	0 of 10	ND	--	
2-Chlorophenol	95-57-8	0 of 13	ND	0 of 10	ND	--	
4-Chlorophenyl phenyl ether	7005-72-3	---	---	0 of 10	ND	--	
Chrysene	218-01-9	5 of 16	0.0802	10 of 10	1	1.10	Potential new contaminant: Maximum concentration exceeds clean fill by more than 10x
Dibenz(a,h)anthracene	53-70-3	0 of 16	ND	8 of 10	0.14	--	Potential new contaminant: Not detected in clean fill
Dibenzofuran	132-64-9	---	---	5 of 10	0.068	--	Potential new contaminant: Not analyzed in clean fill
3,3'-Dichlorobenzidine	91-94-1	0 of 13	ND	0 of 10	ND	--	
2,4-Dichlorophenol	120-83-2	0 of 13	ND	0 of 10	ND	--	
Diethyl phthalate	84-66-2	1 of 13	0.00015	2 of 10	0.037	2.39	Potential new contaminant: Maximum concentration exceeds clean fill by more than 10x
Dimethyl phthalate	131-11-3	---	---	0 of 10	ND	--	
2,4-Dimethylphenol	105-67-9	0 of 13	ND	0 of 10	ND	--	
Di-n-butyl phthalate	84-74-2	2 of 13	0.0743	0 of 10	ND	--	
4,6-Dinitro-2-methylphenol	534-52-1	0 of 13	ND	0 of 10	ND	--	
2,4-Dinitrophenol	51-28-5	0 of 13	ND	0 of 10	ND	--	
2,4-Dinitrotoluene	121-14-2	0 of 13	ND	0 of 10	ND	--	
2,6-Dinitrotoluene	606-20-2	0 of 13	ND	0 of 10	ND	--	
Di-n-octyl phthalate	117-84-0	0 of 13	ND	1 of 10	0.042	--	Potential new contaminant: Not detected in clean fill
Fluoranthene	206-44-0	6 of 16	0.12	10 of 10	1.7	1.15	Potential new contaminant: Maximum concentration exceeds clean fill by more than 10x
Fluorene	86-73-7	0 of 16	ND	9 of 10	0.14	--	Potential new contaminant: Not detected in clean fill
Hexachlorobenzene	118-74-1	0 of 13	ND	0 of 10	ND	--	
Hexachlorobutadiene	87-68-3	0 of 13	ND	0 of 10	ND	--	
Hexachlorocyclopentadiene	77-47-4	0 of 13	ND	0 of 10	ND	--	
Hexachloroethane	67-72-1	0 of 13	ND	0 of 10	ND	--	
Indeno[1,2,3-cd]pyrene	193-39-5	0 of 16	ND	10 of 10	0.47	--	Potential new contaminant: Not detected in clean fill
Isophorone	78-59-1	0 of 13	ND	0 of 10	ND	--	
2-Methylnaphthalene	91-57-6	0 of 13	ND	4 of 10	0.052	--	Potential new contaminant: Not detected in clean fill
2-Methylphenol	95-48-7	0 of 13	ND	0 of 10	ND	--	

Table 5. Clean Fill and SEL Pond Area Sample Data Comparison

Southeast Leg Pond Area Phase 1 Sampling

Hatco Remediation Project

Woodbridge, New Jersey

Parameters Analyzed	CASRN	Clean Fill Data Summary		SEL Pond Soil and Sediment		Order of Magnitude Variance	Summary of Comparison
		Frequency of Detections	Maximum Result Reported	Frequency of Detections	Maximum Result Reported		
4-Methylphenol	106-44-5	---	---	1 of 10	0.13	--	Potential new contaminant: Not analyzed in clean fill
Naphthalene	91-20-3	1 of 16	0.0791	10 of 10	10	2.10	Potential new contaminant: Maximum concentration exceeds clean fill by more than 10x
2-Nitroaniline	88-74-4	0 of 13	ND	0 of 10	ND	--	
3-Nitroaniline	99-09-2	---	---	0 of 10	ND	--	
4-Nitroaniline	100-01-6	---	---	0 of 10	ND	--	
2-Nitrophenol	88-75-5	1 of 10	ND	0 of 10	ND	--	
4-Nitrophenol	100-02-7	---	---	0 of 10	ND	--	
Nitrobenzene	98-95-3	0 of 13	ND	0 of 10	ND	--	
N-Nitrosodi-n-propylamine	621-64-7	0 of 13	ND	0 of 10	ND	--	
N-Nitrosodiphenylamine	86-30-6	0 of 13	ND	0 of 10	ND	--	
2,2'-oxybis[1-chloropropane]	108-60-1	0 of 13	ND	0 of 10	ND	--	
Pentachlorophenol	87-86-5	0 of 13	ND	0 of 10	ND	--	
Phenanthrene	85-01-8	4 of 16	0.064	10 of 10	1.7	1.42	Potential new contaminant: Maximum concentration exceeds clean fill by more than 10x
Phenol	108-95-2	0 of 13	ND	0 of 10	ND	--	
Pyrene	129-00-0	6 of 16	0.112	10 of 10	2	1.25	Potential new contaminant: Maximum concentration exceeds clean fill by more than 10x
1,2,4,5-Tetrachlorobenzene	95-94-3	---	---	0 of 10	ND	--	
2,3,4,6-Tetrachlorophenol	58-90-2	---	---	0 of 10	ND	--	
2,4,5-Trichlorophenol	95-95-4	0 of 13	ND	0 of 10	ND	--	
2,4,6-Trichlorophenol	88-06-2	0 of 13	ND	0 of 10	ND	--	
Total SVOC Conc.	NA	10 of 16	0.4082	10 of 10	32.875	1.91	
Pesticides							
Aldrin	309-00-2	0 of 12	ND	0 of 10	ND	--	
alpha-BHC	319-84-6	0 of 12	ND	0 of 10	ND	--	
beta-BHC	319-85-7	0 of 12	ND	0 of 10	ND	--	
delta-BHC	319-86-8	0 of 12	ND	0 of 10	ND	--	
gamma-BHC (Lindane)	58-89-9	0 of 12	ND	0 of 10	ND	--	
Chlordane (technical)	12789-03-6	---	---	0 of 10	ND	--	
4,4'-DDD	72-54-8	0 of 12	ND	0 of 10	ND	--	
4,4'-DDE	72-55-9	1 of 12	0.00087	0 of 10	ND	--	
4,4'-DDT	50-29-3	0 of 12	ND	0 of 10	ND	--	
Dieldrin	60-57-1	0 of 12	ND	0 of 10	ND	--	
Endosulfan I	959-98-8	---	---	0 of 10	ND	--	
Endosulfan II	33213-65-9	---	---	0 of 10	ND	--	
Endosulfans (I and II)	115-29-7	0 of 12	ND	0 of 10	ND	--	
Endosulfan sulfate	1031-07-8	0 of 12	ND	0 of 10	ND	--	
Endrin	72-20-8	0 of 12	ND	0 of 10	ND	--	
Endrin aldehyde	7421-93-4	---	---	0 of 10	ND	--	
Endrin ketone	53494-70-5	---	---	0 of 10	ND	--	
Heptachlor	76-44-8	0 of 12	ND	0 of 10	ND	--	
Heptachlor epoxide	1024-57-3	0 of 12	ND	0 of 10	ND	--	
Methoxychlor	72-43-5	0 of 12	ND	0 of 10	ND	--	
Toxaphene	8001-35-2	0 of 12	ND	0 of 10	ND	--	
PCBs							
Aroclor 1016	12674-11-2	0 of 12	ND	0 of 10	ND	--	
Aroclor 1221	11104-28-2	0 of 12	ND	0 of 10	ND	--	
Aroclor 1232	11141-16-5	0 of 12	ND	0 of 10	ND	--	
Aroclor 1242	53469-21-9	0 of 12	ND	0 of 10	ND	--	
Aroclor 1248	12672-29-6	0 of 12	ND	9 of 10	18	--	Potential new contaminant: Not detected in clean fill
Aroclor 1254	11097-69-1	0 of 12	ND	0 of 10	ND	--	
Aroclor 1260	11096-82-5	0 of 12	ND	0 of 10	ND	--	
Aroclor 1262	37324-23-5	---	---	0 of 10	ND	--	
Aroclor 1268	11100-14-4	---	---	0 of 10	ND	--	
Total PCBs	1336-36-3	0 of 12	ND	9 of 10	18	--	
Herbicides							

Table 5. Clean Fill and SEL Pond Area Sample Data Comparison

Southeast Leg Pond Area Phase 1 Sampling

Hatco Remediation Project

Woodbridge, New Jersey

Parameters Analyzed	CASRN	Clean Fill Data Summary		SEL Pond Soil and Sediment		Order of Magnitude Variance	Summary of Comparison
		Frequency of Detections	Maximum Result Reported	Frequency of Detections	Maximum Result Reported		
2,4,5-T	93-76-5	---	---	0 of 10	ND	--	
2,4-D	94-75-7	---	---	0 of 10	ND	--	
Silvex (2,4,5-TP)	93-72-1	---	---	0 of 10	ND	--	
Inorganics							
Aluminum	7429-90-5	15 of 15	6220	10 of 10	12100	0.29	Concentration and frequency of detection similar to clean fill. No further sampling recommended
Antimony	7440-36-0	0 of 15	ND	0 of 10	ND	--	
Arsenic	7440-38-2	9 of 15	9.53	10 of 10	6.5	(0.17)	Concentration and frequency of detection similar to clean fill. No further sampling recommended
Barium	7440-39-3	9 of 15	92.6	10 of 10	81.9	(0.05)	Concentration and frequency of detection similar to clean fill. No further sampling recommended
Beryllium	7440-41-7	7 of 15	1.13	7 of 10	0.52	(0.34)	Concentration and frequency of detection similar to clean fill. No further sampling recommended
Cadmium	7440-43-9	2 of 15	0.216	3 of 10	0.19	(0.06)	Concentration and frequency of detection similar to clean fill. No further sampling recommended
Calcium	7440-70-2	---	---	10 of 10	30000	--	Not analyzed in clean fill. Not a contaminant of concern. No further sampling recommended.
Chromium	7440-47-3	---	---	10 of 10	63.5	--	Potential new contaminant: Not analyzed in clean fill
Hexavalent Chromium	18540-29-9	1 of 6	ND	0 of 10	ND	--	
Cobalt	7440-48-4	7 of 15	4.79	10 of 10	10.5	0.34	Concentration and frequency of detection similar to clean fill. No further sampling recommended
Copper	7440-50-8	14 of 15	46.7	10 of 10	50.7	0.04	Concentration and frequency of detection similar to clean fill. No further sampling recommended
Iron	7439-89-6	---	---	10 of 10	23400	--	Not analyzed in clean fill. Not a contaminant of concern. No further sampling recommended.
Lead	7439-92-1	13 of 15	11.3	10 of 10	74.8	0.82	Concentration and frequency of detection similar to clean fill. No further sampling recommended
Magnesium	7439-95-4	---	---	10 of 10	17300	--	Not analyzed in clean fill. Not a contaminant of concern. No further sampling recommended.
Manganese	7439-96-5	14 of 15	514	10 of 10	648	0.10	Concentration and frequency of detection similar to clean fill. No further sampling recommended
Mercury	7439-97-6	3 of 15	0.0559	10 of 10	0.27	0.68	Concentration and frequency of detection similar to clean fill. No further sampling recommended
Nickel	7440-02-0	7 of 15	9.99	10 of 10	20	0.30	Concentration and frequency of detection similar to clean fill. No further sampling recommended
Potassium	7440-09-7	---	---	10 of 10	1230	--	Not analyzed in clean fill. Not a contaminant of concern. No further sampling recommended.
Selenium	7782-49-2	1 of 15	0.909	0 of 10	ND	--	Concentration and frequency of detection similar to clean fill. No further sampling recommended
Silver	7440-22-4	0 of 15	ND	0 of 10	ND	--	
Sodium	7440-23-5	---	---	10 of 10	506	--	Not analyzed in clean fill. Not a contaminant of concern. No further sampling recommended.
Thallium	7440-28-0	2 of 15	1.41	0 of 10	ND	--	
Vanadium	7440-62-2	16 of 16	56.5	10 of 10	61.8	0.04	Concentration and frequency of detection similar to clean fill. No further sampling recommended
Zinc	7440-66-6	10 of 16	20.7	10 of 10	117	0.75	Concentration and frequency of detection similar to clean fill. No further sampling recommended
Cyanide, Total	57-12-5	0 of 12	ND	0 of 10	ND	--	
General Chemistry							
Total EPH (C9-C40)	NA	3 of 12	36.5	10 of 10	560	1.19	Potential new contaminant: Maximum concentration exceeds clean fill by more than 10x
pH (Standard Units)	NA	5 of 5	7.8	10 of 10	7.5	(0.02)	
Total Organic Carbon	NA	---	---	10 of 10	49300	--	

Notes:

Maximum result reported in milligrams per kilogram dry weight basis unless otherwise noted

Frequency of detections is the total number of results greater than the MDL out of the total number of samples analyzed

---: Sample not analyzed for parameter indicated

NA: Not applicable

ND: Not detected

CASRN: Chemical Abstract Service Registry Number



Table 6
Proposed Sample Summary

Table 6. Proposed Sample Summary
Southeast Leg Pond Area Phase 2 Sampling
Hatco Remediation Project
Woodbridge, New Jersey

Sample Location	Target Northing	Target Easting	Matrix	Target Sample			Sample ID	Sampling Objective
PA-Ae04	614256	542539	SD	0.0	-	0.5	PA-Ae04-SD-A-B-[MMDDYY]	Pond perimeter
PA-Ae04	614256	542539	SS	0.0	-	0.5	PA-Ae04-SS-A-B-[MMDDYY]	Pond perimeter
PA-Ae06	614257	542560	SD	0.0	-	0.5	PA-Ae06-SD-A-B-[MMDDYY]	Pond perimeter
PA-Ae06	614257	542560	SS	0.0	-	0.5	PA-Ae06-SS-A-B-[MMDDYY]	Pond perimeter
PA-Af08	614262	542580	SD	0.0	-	0.5	PA-Af08-SD-A-B-[MMDDYY]	Pond perimeter
PA-Af08	614262	542580	SS	0.0	-	0.5	PA-Af08-SS-A-B-[MMDDYY]	Pond perimeter
PA-Af10	614268	542600	SD	0.0	-	0.5	PA-Af10-SD-A-B-[MMDDYY]	Pond perimeter
PA-Af10	614268	542600	SS	0.0	-	0.5	PA-Af10-SS-A-B-[MMDDYY]	Pond perimeter
PA-Af12	614274	542620	SD	0.0	-	0.5	PA-Af12-SD-A-B-[MMDDYY]	Pond perimeter
PA-Af12	614274	542620	SS	0.0	-	0.5	PA-Af12-SS-A-B-[MMDDYY]	Pond perimeter
PA-Ag03	614278	542533	SD	0.0	-	0.5	PA-Ag03-SD-A-B-[MMDDYY]	Pond perimeter
PA-Ag03	614278	542533	SS	0.0	-	0.5	PA-Ag03-SS-A-B-[MMDDYY]	Pond perimeter
PA-Ag14	614282	542637	SD	0.0	-	0.5	PA-Ag14-SD-A-B-[MMDDYY]	Pond perimeter
PA-Ag14	614282	542637	SS	0.0	-	0.5	PA-Ag14-SS-A-B-[MMDDYY]	Pond perimeter
PA-Ai02	614298	542522	SD	0.0	-	0.5	PA-Ai02-SD-A-B-[MMDDYY]	Pond perimeter
PA-Ai02	614298	542522	SS	0.0	-	0.5	PA-Ai02-SS-A-B-[MMDDYY]	Pond perimeter
PA-Ai04	614298	542539	SD	0.0	-	0.5	PA-Ai04-SD-A-B-[MMDDYY]	Pond bottom transect
PA-Ai04	614298	542539	SW	mid	-	wc	PA-Ai04-SW-#-[MMDDYY]	Surface water transect
PA-Ai08	614298	542580	SD	0.0	-	0.5	PA-Ai08-SD-A-B-[MMDDYY]	Pond bottom transect
PA-Ai08	614298	542580	SW	mid	-	wc	PA-Ai08-SW-#-[MMDDYY]	Surface water transect
PA-Ai12	614298	542635	SD	0.0	-	0.5	PA-Ai12-SD-A-B-[MMDDYY]	Pond bottom transect
PA-Ai12	614298	542635	SW	mid	-	wc	PA-Ai12-SW-#-[MMDDYY]	Surface water transect
PA-Ai15	614298	542650	SD	0.0	-	0.5	PA-Ai15-SD-A-B-[MMDDYY]	Pond perimeter
PA-Ai15	614298	542650	SS	0.0	-	0.5	PA-Ai15-SS-A-B-[MMDDYY]	Pond perimeter
PA-Ak02	614318	542524	SD	0.0	-	0.5	PA-Ak02-SD-A-B-[MMDDYY]	Pond perimeter
PA-Ak02	614318	542524	SS	0.0	-	0.5	PA-Ak02-SS-A-B-[MMDDYY]	Pond perimeter
PA-Ak16	614318	542654	SD	0.0	-	0.5	PA-Ak16-SD-A-B-[MMDDYY]	Pond perimeter
PA-Ak16	614318	542654	SS	0.0	-	0.5	PA-Ak16-SS-A-B-[MMDDYY]	Pond perimeter
PA-Am02	614338	542526	SD	0.0	-	0.5	PA-Am02-SD-A-B-[MMDDYY]	Pond perimeter
PA-Am02	614338	542526	SS	0.0	-	0.5	PA-Am02-SS-A-B-[MMDDYY]	Pond perimeter
PA-Am04	614338	542539	SD	0.0	-	0.5	PA-Am04-SD-A-B-[MMDDYY]	Pond bottom transect
PA-Am04	614338	542539	SW	mid	-	wc	PA-Am04-SW-#-[MMDDYY]	Surface water transect
PA-Am08	614338	542580	SD	0.0	-	0.5	PA-Am08-SD-A-B-[MMDDYY]	Pond bottom transect
PA-Am08	614338	542580	SW	mid	-	wc	PA-Am08-SW-#-[MMDDYY]	Surface water transect
PA-Am12	614338	542560	SD	0.0	-	0.5	PA-Am12-SD-A-B-[MMDDYY]	Pond bottom transect
PA-Am12	614338	542560	SW	mid	-	wc	PA-Am12-SW-B-C-[MMDDYY]	Surface water transect
PA-Am15	614338	542647	SD	0.0	-	0.5	PA-Am15-SD-A-B-[MMDDYY]	Pond perimeter
PA-Am15	614338	542647	SS	0.0	-	0.5	PA-Am15-SS-A-B-[MMDDYY]	Pond perimeter
PA-Ao02	614358	542524	SD	0.0	-	0.5	PA-Ao02-SD-A-B-[MMDDYY]	Pond perimeter
PA-Ao02	614358	542524	SD	0.5	-	1.0	PA-Ao02-SD-B-C-[MMDDYY]	Pond perimeter
PA-Ao02	614358	542524	SS	0.0	-	0.5	PA-Ao02-SS-A-B-[MMDDYY]	Pond perimeter
PA-Ao06	614358	542560	SD	0.0	-	0.5	PA-Ao06-SD-A-B-[MMDDYY]	Regulatory request
PA-Ao06	614358	542560	SD	0.5	-	1.0	PA-Ao06-SD-B-C-[MMDDYY]	Regulatory request
PA-Ao06	614358	542560	SW	mid	-	wc	PA-Ao06-SW-#-[MMDDYY]	Regulatory request
PA-Ao10	614358	542600	SD	0.0	-	0.5	PA-Ao10-SD-A-B-[MMDDYY]	Regulatory request
PA-Ao10	614358	542600	SD	0.5	-	1.0	PA-Ao10-SD-B-C-[MMDDYY]	Regulatory request
PA-Ao10	614358	542600	SW	mid	-	wc	PA-Ao10-SW-#-[MMDDYY]	Regulatory request
PA-Ao14	614358	542639	SD	0.0	-	0.5	PA-Ao14-SD-A-B-[MMDDYY]	Pond perimeter
PA-Ao14	614358	542639	SD	0.5	-	1.0	PA-Ao14-SD-B-C-[MMDDYY]	Pond perimeter
PA-Ao14	614358	542639	SS	0.0	-	0.5	PA-Ao14-SS-A-B-[MMDDYY]	Pond perimeter
PA-Aq04	614378	542543	SD	0.0	-	0.5	PA-Aq04-SD-A-B-[MMDDYY]	Pond bottom transect
PA-Aq04	614378	542543	SD	0.5	-	1.0	PA-Aq04-SD-B-C-[MMDDYY]	Pond bottom transect
PA-Aq04	614378	542543	SS	0.0	-	0.5	PA-Aq04-SS-A-B-[MMDDYY]	Pond perimeter
PA-Aq04	614378	542543	SW	mid	-	wc	PA-Aq04-SW-#-[MMDDYY]	Surface water transect
PA-Aq08	614378	542580	SD	0.0	-	0.5	PA-Aq08-SD-A-B-[MMDDYY]	Pond bottom transect
PA-Aq08	614378	542580	SW	mid	-	wc	PA-Aq08-SW-#-[MMDDYY]	Surface water transect

Table 6. Proposed Sample Summary
Southeast Leg Pond Area Phase 2 Sampling
Hatco Remediation Project
Woodbridge, New Jersey

Sample Location	Target Northing	Target Easting	Matrix	Target Sample		Sample ID	Sampling Objective
PA-Aq12	614378	542618	SD	0.0	-	0.5	PA-Aq12-SD-A-B-[MMDDYY]
PA-Aq12	614378	542618	SD	0.5	-	1.0	PA-Aq12-SD-B-C-[MMDDYY]
PA-Aq12	614378	542618	SS	0.0	-	0.5	PA-Aq12-SS-A-B-[MMDDYY]
PA-Aq12	614378	542618	SW	mid	-	wc	PA-Aq12-SW-#-[MMDDYY]
PA-As05	614398	542551	SD	0.0	-	0.5	PA-As05-SD-A-B-[MMDDYY]
PA-As05	614398	542551	SD	0.5	-	1.0	PA-As05-SD-B-C-[MMDDYY]
PA-As05	614398	542551	SS	0.0	-	0.5	PA-As05-SS-A-B-[MMDDYY]
PA-As08	614398	542580	SD	0.0	-	0.5	PA-As08-SD-A-B-[MMDDYY]
PA-As08	614398	542580	SD	0.5	-	1.0	PA-As08-SD-B-C-[MMDDYY]
PA-As08	614398	542580	SW	mid	-	wc	PA-As08-SW-#-[MMDDYY]
PA-As11	614398	542611	SD	0.0	-	0.5	PA-As11-SD-A-B-[MMDDYY]
PA-As11	614398	542611	SD	0.5	-	1.0	PA-As11-SD-B-C-[MMDDYY]
PA-As11	614398	542611	SS	0.0	-	0.5	PA-As11-SS-A-B-[MMDDYY]
PA-At06	614409	542564	SD	0.0	-	0.5	PA-At06-SD-A-B-[MMDDYY]
PA-At06	614409	542564	SD	0.5	-	1.0	PA-At06-SD-B-C-[MMDDYY]
PA-At06	614409	542564	SS	0.0	-	0.5	PA-At06-SS-A-B-[MMDDYY]
PA-At10	614409	542595	SD	0.0	-	0.5	PA-At10-SD-A-B-[MMDDYY]
PA-At10	614409	542595	SD	0.5	-	1.0	PA-At10-SD-B-C-[MMDDYY]
PA-At10	614409	542595	SS	0.0	-	0.5	PA-At10-SS-A-B-[MMDDYY]
PA-Au08	614415	542580	SD	0.0	-	0.5	PA-Au08-SD-A-B-[MMDDYY]
PA-Au08	614415	542580	SD	0.5	-	1.0	PA-Au08-SD-B-C-[MMDDYY]
PA-Au08	614415	542580	SS	0.0	-	0.5	PA-Au08-SS-A-B-[MMDDYY]
PA-Aw09	614438	542589	SS	0.0	-	0.5	PA-Aw09-SS-A-B-[MMDDYY]
PA-Ay09	614458	542594	SS	0.0	-	0.5	PA-Ay09-SS-A-B-[MMDDYY]
PA-Bc09	614498	542586	SS	0.0	-	0.5	PA-Bc09-SS-A-B-[MMDDYY]

Notes:

Target Northing and Easting in New Jersey State Plane Coordinates

SD: Surface soil sample

SS: Sediment sample

SW: Surface water sample

mid-wc: Midpoint of water column. Actual depth and associated depth code (#) will be determined in the field

[MMDDYY]: Six-digit date code representing the month, date and year of sampling.



Table 7
Analytical Methods

Table 7. Analytical Methods
Southeast Leg Pond Area Phase 2 Sampling
Hatco Remediation Project
Woodbridge, New Jersey

Matrix	Analytical Method	Parameter	No. of Samples	No. of Trip Blanks	Frequency of Trip Blanks	No. of Field Blanks ^(a)	Frequency of Field Blanks	No. of Duplicate Samples ^(b)	Frequency of Laboratory-Blind Duplicate Samples	No. of MS/MSD Samples	Frequency of MS/MSD Samples
Phase 2 - Surface Water	6020B	TAL Metals	12	0		2	1 per day	1	1 per 20 analyzed	1	1 per batch of 20 samples
	245.1	Mercury	12	0		2	1 per day	1	1 per 20 analyzed	1	1 per batch of 20 samples
	8082A	PCBs	12	0		2	1 per day	1	1 per 20 analyzed	1	1 per batch of 20 samples
	8260D	Selected VOCs	12	1	1 per sample shipment	2	1 per day	1	1 per 20 analyzed	1	1 per batch of 20 samples
	8270E_SIM	SVOC - SIM Analytes	12	0		2	1 per day	1	1 per 20 analyzed	1	1 per batch of 20 samples
	8270E	TCL SVOC	12	0		2	1 per day	1	1 per 20 analyzed	1	1 per batch of 20 samples
	8015B(M)	EPH	12	0		2	1 per day	1	1 per 20 analyzed	1	1 per batch of 20 samples
	Field measurement	pH	12	0		2	1 per day	1	1 per 20 analyzed	1	1 per batch of 20 samples
	8082A	PCBs	25	0		3	1 per day	2	1 per 20 analyzed	2	1 per batch of 20 samples
Phase 2 - Surface Soil	6010D	TAL Metals	25	0		3	1 per day	2	1 per 20 analyzed	2	1 per batch of 20 samples
	8260D	Selected VOCs	25	0		3	1 per day	2	1 per 20 analyzed	2	1 per batch of 20 samples
	8270E	TCL SVOC	25	0		3	1 per day	2	1 per 20 analyzed	2	1 per batch of 20 samples
	8015B(M)	EPH	25	0		3	1 per day	2	1 per 20 analyzed	2	1 per batch of 20 samples
	8082A	PCBs	44	0		5	1 per day	2	1 per 20 analyzed	2	1 per batch of 20 samples
Phase 2 - Sediment	6010D	TAL Metals	44	0		5	1 per day	2	1 per 20 analyzed	2	1 per batch of 20 samples
	7471B	Mercury	44	0		5	1 per day	2	1 per 20 analyzed	2	1 per batch of 20 samples
	8260D	Selected VOCs	44	0		5	1 per day	2	1 per 20 analyzed	2	1 per batch of 20 samples
	8270E	TCL SVOC	44	0		5	1 per day	2	1 per 20 analyzed	2	1 per batch of 20 samples
	9060A	Total Organic Carbon	44	0		5	1 per day	2	1 per 20 analyzed	2	1 per batch of 20 samples
	8015B(M)	EPH	44	0		5	1 per day	2	1 per 20 analyzed	2	1 per batch of 20 samples
	9045D	pH	44	0		5	1 per day	2	1 per 20 analyzed	2	1 per batch of 20 samples

Notes:

^(a) Total number of field blanks will depend upon the duration of the sampling event. Estimated quantities are based on the following tentative schedule: Surface water and transect sampling is expected to take two days. The remaining sampling is expected to take three days to complete.

MS/MSD Matrix spike/matrix spike duplicate sample

PCBs Total Polychlorinated Biphenyls

SIM Selected-Ion Monitoring

TCL SVOC Target Compound List semi-volatile organic compounds.

Selected VOCs Volatile Organic Compounds: Acetone, benzene, 2-butanone, ethylbenzene, methylcyclohexane, 2-methyl-2-propanol, toluene, xylenes.

EPH Extractable petroleum hydrocarbons



Table 8
Sample Preservation Requirements

Table 8. Sample Preservation Requirements
Southeast Leg Pond Area Phase 2 Sampling
Hatco Remediation Project
Woodbridge, New Jersey

Matrix	Parameters	Sample Container*	Minimum Mass (g)	Analytical Method	Sample Preservation	Holding Time
Surface Water	TAL Metals	250 mL HDPE	100	6020B	Ultra HNO ₃ to pH < 2	180 days
	Mercury	250 mL HDPE	100	245	HNO ₃ to pH < 2	28 days
	PCBs	2 x 1 L amber glass	1000	8082A	Cool to 4°C ± 2°C	7 days to extraction; 40 days from extraction to analysis
	Selected VOCs	4 x 40 mL VOA vials	40	8260D	Cool to 4°C ± 2°C, HCl to pH < 2 (no headspace)	14 days
	SVOC - SIM Analytes	2 x 1 L amber glass	1000	8270E_SIM	Cool to 4°C ± 2°C	7 days to extraction; 40 days from extraction to analysis
	TCL SVOCs	2 x 1 L amber glass	1000	8270E	Cool to 4°C ± 2°C	7 days to extraction; 40 days from extraction to analysis
	Hexavalent Chromium	250 mL HDPE	200	218.6 / 7196A / 7199	Cool to 4°C ± 2°C	24 hours
	EPH	2 x 1 L amber glass	500	8015B(M)	Cool to 4°C ± 2°C, HCl	14 days to extraction; 40 days from extraction to analysis
	pH	field measurement	50	field measurement	field measurement	15 minutes
Soil and Sediment	PCBs	4 oz glass w/Teflon lid	20	8082A	Cool to 4°C ± 2°C	14 days to extraction; 40 days from extraction to analysis
	TAL Metals	4 oz glass w/Teflon lid	2	6010D	None	180 days
	Mercury	4 oz glass w/Teflon lid	28	7471B	None	28 days
	Selected VOCs	3 EnCore® Samplers and 20 mL HDPE	3/sample	8260D	Cool to 4°C ± 2°C	48 hours for extraction; 14 days for analysis
	TCL SVOC	4 oz glass w/Teflon lid	20	8270E	Cool to 4°C ± 2°C	14 days to extraction; 40 days from extraction to analysis
	Total Organic Carbon	4 oz glass w/Teflon lid	2	9060A	Cool to 4°C ± 2°C	28 days
	EPH	4 oz glass w/Teflon lid	10	8015B(M)	Cool to 4°C ± 2°C	14 days to extraction; 40 days from extraction to analysis
	pH	4 oz glass w/Teflon lid	20	9045D	Cool to 4°C ± 2°C	24 Hours

Notes:

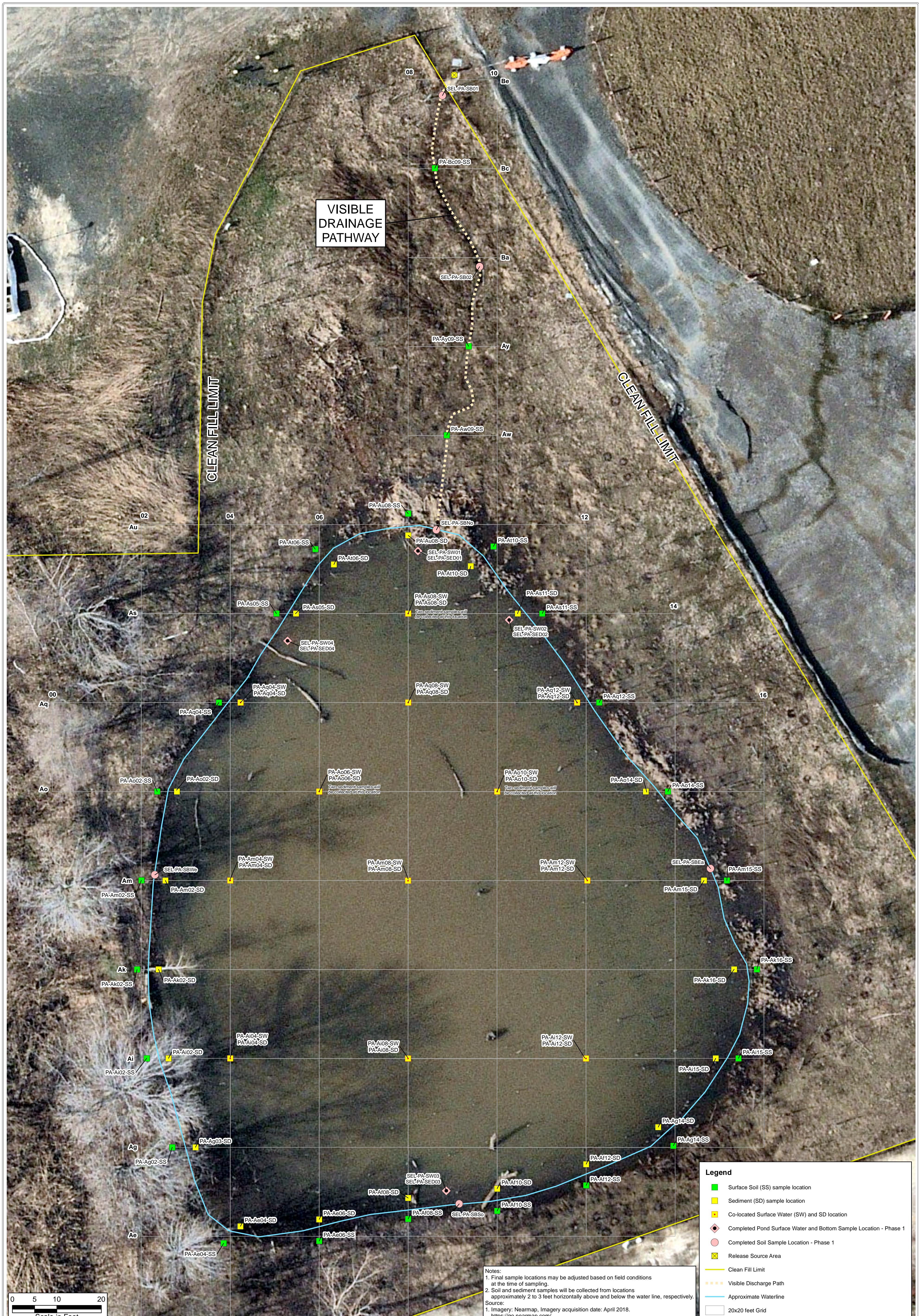
* Coordinate with laboratory regarding use of discrete sample aliquots for multiple analyses.

°C	Degrees Celsius	NaOH	Sodium hydroxide
g	gram	PCBs	Polychlorinated biphenyls
EPH	Extractable petroleum hydrocarbons	SIM	Selected-Ion Monitoring
HDPE	high density polyethylene	SVOCs	Semi-Volatile Organic Compounds
HNO ₃	Nitric acid	TAL	Target Analyte List
H ₂ SO ₄	Sulfuric acid	TCL	Target Compound List
L	liter	VOCs	Volatile Organic Compounds (see Table 7 for list of selected VOCs)
mL	milliliter		
oz	ounce		



Figure 1

Southeast Leg Pond Area Sewer Line Release Sampling



DRAWING TITLE: 0 5 10 20
Scale in Feet

Southeast Leg Pond Area
Sewer Line Release Sampling

CLIENT NAME:

Hatco

PROJECT NAME:

SEL Pond Restoration

N

W

E

S

REPORT DATE: March 2021

PROJECT MANAGER: J. Schindler

DRAWING: 26247_Pond_Area_Phase_II_Proposed_Sampling.mxd

PATH: P:\Hatco\GIS\MAX2019_10_SEL_Pond_FSP\

REVISION NO.: 1

WORK ORDER NO.: 13067.001.004.8003

DRAWN/MODIFIED BY: H. Bravo-Ruiz

DATE CREATED: 11/12/2020

CHECKED BY: C. Devorak

CONTRACT NO.:

DELIVERY ORDER NO.:

DATE MODIFIED: 11/12/2020



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